U. S. DEPARTMENT OF LABOR
JAMES J. DAVIS, Secretary
CHILDREN'S BUREAU
GRACE ABBOTT, Chief

THE PROMOTION OF THE WELFARE AND HYGIENE OF MATERNITY AND INFANCY

THE ADMINISTRATION OF THE ACT OF CONGRESS OF NOVEMBER 21, 1921

For the Period March 20, 1922, to June 30, 1923

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CONTENTS.

LETTER OF TRANSMITTAL.

U. S. Department of Labor,
Children's Bureau,
Washington, February 11, 1924.

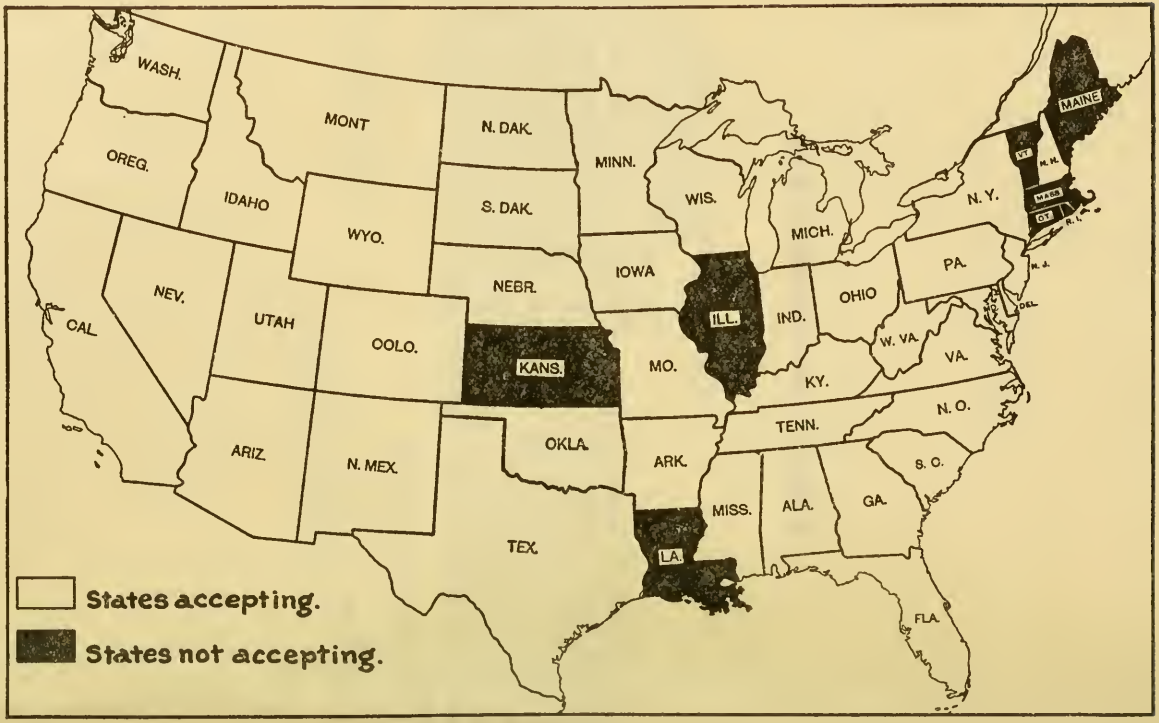
Sir: There is transmitted herewith a report of the activities undertaken for the promotion of the welfare and hygiene of maternity and infancy under the act of Congress of November 21, 1921, during the period from March 20, 1922, when the first appropriation became available, to June 30, 1923. Dr. Anna E. Rude, director of the maternity and infant-hygiene division of the Children's Bureau, was in immediate charge of this work for the bureau and has prepared this report.

Respectfully submitted.

Grace Abbott, *Chief.*

Hon. James J. Davis,
Secretary of Labor.

LEGISLATIVE ACCEPTANCE BY THE STATES OF THE MATERNITY AND INFANCY ACT.
(JULY 1, 1923.)



THE PROMOTION OF THE WELFARE AND HYGIENE OF MATERNITY AND INFANCY.

THE LAW.

SUMMARY OF PROVISIONS.

Nation-wide acknowledgment of the need for better health protection of motherhood and infancy became a reality with the passage of "An act for the promotion of the welfare and hygiene of maternity and infancy and for other purposes," more popularly known as the Sheppard-Towner Act. The original bill, with subsequent amendments, came up for consideration before three Congresses, the Sixty-fifth, Sixty-sixth, and Sixty-seventh. It was passed on November 21, 1921, and was signed by the President on November 23, 1921.

The measure in its original form was offered as a means of beginning the solution of the long-neglected problems of maternal and infant hygiene which were pointed out in the series of investigations on maternal and infant mortality made by the Children's Bureau during the nine years of its existence.

While certain minor provisions of the original bill were omitted and a few new stipulations added, the bill as passed carried out the original purpose of the measure in that provision was made for (1) Federal financial aid to the States, (2) the administration of this aid by the Children's Bureau, (3) the application of such aid to the problem of reducing maternal and infant mortality and its use in protecting the health of mothers and infants, and (4) the vesting in the States of complete authority to initiate and to administer plans subject to approval by the Federal Board of Maternity and Infant Hygiene.

Briefly analyzed, the provisions of the act are:

I. Benefits available to the States.

(1) Funds authorized for year ended June 30, 1922	$490,000
To be equally apportioned among the States and granted outright to States accepting the provisions of the act	240,000
To be apportioned to the States if matched dollar for dollar by State appropriations in the proportion which their population bears to the total population of the States of the United States	[1] 237,500
(2) Funds authorized for each of five years after June 30, 1922	[2] 1,240,000

[1] For Federal administration of the act, not to exceed $12,500.

[2] Of this amount $240,000 is to be equally apportioned among the States and granted outright; $240,000 additional is to be equally apportioned to the States and granted if matched dollar for dollar; and $710,000 is to be apportioned to the States on the basis of population and granted if matched dollar for dollar. A sum not to exceed $50,000 is allowed for Federal administration.

I. Benefits available to the States—Continued.
  (3) Prohibitions.
    (*a*) Funds may not be used (1) for the purchase, erection, preservation, or repair of any building or buildings or equipment nor for the purchase or rental of any buildings or lands; (2) for the payment of any maternity or infancy pension, stipend, or gratuity.
    (*b*) Acceptance of benefits must be voluntary on part of both State and individual.
II. How the States may secure the benefits of the act.
  (1) The State legislature must (or the governor may for a period limited to six months after the adjournment of the first regular session of the State legislature after the passage of the act)—
    (*a*) Accept the provisions of the act.
    (*b*) Designate a State agency with which the Children's Bureau is to cooperate in carrying out the purposes of the act. Any State having a child-welfare or child-hygiene division in its health department or board must designate that division.
  (2) The child-hygiene or child-welfare division of the department of health or other designated agency must—
    (*a*) Submit detailed plans for carrying out the provisions of the act within the State to the Children's Bureau for approval by the Federal Board of Maternity and Infant Hygiene.
    (*b*) Make such reports to the Children's Bureau concerning its operations and expenditures for the purposes of the act as shall be prescribed or requested by the bureau.
III. Powers and duties of the Children's Bureau under the act.
  (1) To cooperate with the agency designated by each State for local administration.
  (2) To make such studies, investigations, and reports as will promote the efficient administration of the act.
  (3) To certify to the Secretary of the Treasury of the United States and to the treasurers of the States the amount which has been apportioned to each State for the fiscal year.
  (4) To carry on the general administration of the act.
IV. The Federal Board of Maternity and Infant Hygiene.
  (1) Membership: The Chief of the Children's Bureau, the Surgeon General of the Public Health Service, and the Commissioner of Education.
  (2) Chairman: To be elected by the board.[3]
  (3) Powers:
    (*a*) To approve or disapprove plans submitted by the States.
    (*b*) To withhold further certification of Federal funds to a State if the money is not properly expended.[4]

FUNDS AVAILABLE UNDER THE ACT.

Fiscal year 1922.

Although the act was passed in November, 1921, the funds authorized by the act did not become available until March, 1922. One-fourth of the fiscal year ending June 30, 1922, then remained, and Congress concurred in the recommendation of the appropriation committee decreasing the initial appropriation authorized by the act. Consequently the second deficiency appropriation act, approved March 20, 1922, carried an appropriation of $490,000. The following table shows the population of the several States in 1920 and the maximum amounts of money which the several States were eligible to receive in 1922 from the Federal Government for cooperative

[3] The Chief of the Children's Bureau was elected chairman at the first meeting of the board.
[4] A State may appeal from the decision of the board to the President of the United States.

work under the maternity and infancy act, and the amounts which they accepted:

TABLE 1.—*Maximum amounts available to the States from the appropriation for the fiscal year ending June 30, 1922, and amounts accepted by States.*

State.	Population, 1920.	Maximum amounts available.			Amounts accepted by States.[1]
		Granted outright.	Granted if matched.	Total.	
Alabama	2,348,174	$5,000.00	$5,297.56	$10,297.56	$10,297.56
Arizona	334,162	5,000.00	753.88	5,753.88	5,000.00
Arkansas	1,752,204	5,000.00	3,953.03	8,953.03	5,000.00
California	3,426,861	5,000.00	7,731.12	12,731.12	[2] 12,731.12
Colorado	939,629	5,000.00	2,119.83	7,119.83	5,000.00
Connecticut	1,380,631	5,000.00	3,114.75	8,114.75	8,114.75
Delaware	223,003	5,000.00	503.10	5,503.10	5,503.10
Florida	968,470	5,000.00	2,184.90	7,184.90	5,000.00
Georgia	2,895,832	5,000.00	6,533.10	11,533.10	6,750.00
Idaho	431,866	5,000.00	974.30	5,974.30	5,000.00
Illinois	6,485,280	5,000.00	14,631.03	19,631.03	[2] 19,631.03
Indiana	2,930,390	5,000.00	6,611.07	11,611.07	8,200.00
Iowa	2,404,021	5,000.00	5,423.56	10,423.56	10,423.56
Kansas	1,769,257	5,000.00	3,991.51	8,991.51	8,991.51
Kentucky	2,416,630	5,000.00	5,452.00	10,452.00	10,452.00
Louisiana	1,798,509	5,000.00	4,057.50	9,057.50	.....
Maine	768,014	5,000.00	1,732.66	6,732.66	.....
Maryland	1,449,661	5,000.00	3,270.49	8,270.49	8,270.49
Massachusetts	3,852,356	5,000.00	8,691.06	13,691.06	.....
Michigan	3,668,412	5,000.00	8,276.07	13,276.07	13,276.07
Minnesota	2,387,125	5,000.00	5,385.44	10,385.44	10,385.44
Mississippi	1,790,618	5,000.00	4,039.70	9,039.70	9,039.70
Missouri	3,404,055	5,000.00	7,679.67	12,679.67	12,679.67
Montana	548,889	5,000.00	1,238.31	6,238.31	6,238.31
Nebraska	1,296,372	5,000.00	2,924.66	7,924.66	7,924.66
Nevada	77,406	5,000.00	174.63	5,174.63	5,000.00
New Hampshire	443,083	5,000.00	999.61	5,999.61	5,000.00
New Jersey	3,155,900	5,000.00	7,119.83	12,119.83	12,119.83
New Mexico	360,350	5,000.00	812.96	5,812.96	5,812.96
New York	10,385,227	5,000.00	23,429.70	28,429.70	.....
North Carolina	2,559,123	5,000.00	5,773.47	10,773.47	10,773.47
North Dakota	646,872	5,000.00	1,459.36	6,459.36	5,000.00
Ohio	5,759,394	5,000.00	12,993.41	17,993.41	7,275.00
Oklahoma	2,028,283	5,000.00	4,575.88	9,575.88	5,000.00
Oregon	783,389	5,000.00	1,767.35	6,767.35	6,625.13
Pennsylvania	8,720,017	5,000.00	19,672.69	24,672.69	24,672.69
Rhode Island	604,397	5,000.00	1,363.54	6,363.54	.....
South Carolina	1,683,724	5,000.00	3,798.54	8,798.54	8,797.50
South Dakota	636,547	5,000.00	1,436.07	6,436.07	6,436.07
Tennessee	2,337,885	5,000.00	5,274.35	10,274.35	5,000.00
Texas	4,663,228	5,000.00	10,520.41	15,520.41	9,363.93
Utah	449,396	5,000.00	1,013.85	6,013.85	5,000.00
Vermont	352,428	5,000.00	795.09	5,795.09	[2] 5,000.00
Virginia	2,309,187	5,000.00	5,209.61	10,209.61	10,209.61
Washington	1,356,621	5,000.00	3,060.58	8,060.58	5,000.00
West Virginia	1,463,701	5,000.00	3,302.16	8,302.16	5,000.00
Wisconsin	2,632,067	5,000.00	5,938.04	10,938.04	10,938.04
Wyoming	194,402	5,000.00	438.57	5,438.57	5,000.00

[1] Includes unmatched allotment.
[2] California, Illinois, and Vermont did not use their funds.

Fiscal year 1923.

The funds available to the States under the 1923 appropriations were the amounts authorized to be appropriated annually for a period of five years under the provisions of the act; namely, $240,000, to be distributed as an unmatched grant of $5,000 to each State accepting the provisions of the act, and an additional sum of $1,000,000. Of this additional amount not more than 5 per cent, or $50,000, may be used for Federal administration, and the balance, or $950,000, is to be apportioned to the States and granted if matched dollar for dollar by State appropriations on the basis of $5,000 to each State and the remainder, or $710,000, prorated on the basis of population.

The following table shows the maximum fund which the several States are eligible to receive from the Federal Government for cooperative work under the maternity and infancy act and the amounts which were paid to them or are to be paid [5] from the appropriation for the fiscal year ended June 30, 1923:

TABLE 2.—*Maximum amounts available to the States from the appropriation for the fiscal year ended June 30, 1923, and amounts accepted by States.*

State.	Population, 1920.	Maximum amounts available.			Amounts accepted by States.[1]
		Granted outright.	Granted if matched.	Total.	
Alabama	2,348,174	$5,000.00	$20,836.95	$25,836.95	$25,836.95
Arizona	334,162	5,000.00	7,253.71	12,253.71	5,000.00
Arkansas	1,752,204	5,000.00	16,817.51	21,817.51	6,855.75
California	3,426,861	5,000.00	28,112.01	33,112.01	24,280.00
Colorado	939,629	5,000.00	11,337.20	16,337.20	10,000.00
Connecticut	1,380 631	5,000.00	14,311.48	19,311.48	9,655.74
Delaware	223,003	5,000.00	6,504.01	11,504.01	11,504.01
Florida	968,470	5,000.00	11,531.72	16,531.72	8,621.28
Georgia	2,895,832	5,000.00	24,530.55	29,530.55	11,000.00
Idaho	431,866	5,000.00	7,912.66	12,912.66	6,250.00
Illinois	6,485,280	5,000.00	48,739.10	53,739.10	.....
Indiana	2,930,390	5,000.00	24,763.62	29,763.62	25,000.00
Iowa	2,404,021	5,000.00	21,213.60	26,213.60	26,213.60
Kansas	1,769,257	5,000.00	16,932.52	21,932.52	12,500.00
Kentucky	2,416,630	5,000.00	21,298.64	26,298.64	26,298.64
Louisiana	1,798,509	5,000.00	17,129.80	22,129.80	.....
Maine	768,014	5,000.00	10,179.77	15,179.77	.....
Maryland	1,449,661	5,000.00	14,777.05	19,777.05	19,277.05
Massachusetts	3,852,356	5,000.00	30,981.70	35,981.70	.....
Michigan	3,668,412	5,000.00	29,741.11	34,741.11	34,741.11
Minnesota	2,387,125	5,000.00	21,099.65	26,099.65	26,099.65
Mississippi	1,790,618	5,000.00	17,076.58	22,076.58	22,076.58
Missouri	3,404,055	5,000.00	27,958.19	32,958.19	32,958.19
Montana	548,889	5,000.00	8,701.91	13,701.91	13,701.91
Nebraska	1,296,372	5,000.00	13,743.21	18,743.21	18,743.21
Nevada	77,407	5,000.00	5,522.06	10,522.06	5,000.00
New Hampshire	443,083	5,000.00	7,988.31	12,988.31	5,000.00
New Jersey	3,155,900	5,000.00	26,284.55	31,284.55	31,284.55
New Mexico	360,350	5,000.00	7,430.33	12,430.33	12,430.33
New York	10,385,227	5,000.00	75,041.78	80,041.78	.....
North Carolina	2,559,123	5,000.00	22,259.66	27,259.66	27,259.66
North Dakota	646,872	5,000.00	9,362.74	14,362.74	6,000.00
Ohio	5,759,394	5,000.00	43,843.46	48,843.46	11,900.00
Oklahoma	2,028,283	5,000.00	18,679.48	23,679.48	5,000.00
Oregon	783,389	5,000.00	10,283.46	15,283.46	8,000.00
Pennsylvania	8,720,017	5,000.00	63,810.99	68,810.99	68,810.99
Rhode Island	604,397	5,000.00	9,076.28	14,076.28	.....
South Carolina	1,683,724	5,000.00	16,355.65	21,355.65	21,355.65
South Dakota	636,547	5,000.00	9,293.11	14,293.11	14,293.11
Tennessee	2,337,885	5,000.00	20,767.55	25,767.55	19,000.00
Texas	4,663,228	5,000.00	36,450.52	41,450.52	35,313.93
Utah	449,396	5,000.00	8,030.89	13,030.89	6,365.00
Vermont	352,428	5,000.00	7,376.90	12,376.90	.....
Virginia	2,309,187	5,000.00	20,574.00	25,574.00	25,574.00
Washington	1,356,621	5,000.00	14,149.55	19,149.55	10,000.00
West Virginia	1,463,701	5,000.00	14,871.74	19,871.74	5,000.00
Wisconsin	2,632,067	5,000.00	22,751.62	27,751.62	27,751.62
Wyoming	194,402	5,000.00	6,311.12	11,311.12	5,000.00

[1] Includes unmatched allotment.

STATES ACCEPTING THE TERMS OF THE ACT.

By June 30, 1922, 42 States had accepted the terms of the act, 11 by legislative enactment—Delaware, Kentucky, Maryland, Minnesota, Mississippi, New Hampshire, New Jersey, New Mexico, Oregon, South Carolina, and Virginia—and 31 through the approval of the governor pending the next regular session of the legislature.

[5] These amounts were not necessarily expended in 1923; some States will use the 1923 funds during the fiscal year ending in 1924.

Of the six States not cooperating with the Federal Government under the act in 1922 and during the first half of the fiscal year 1923, the legislatures of Louisiana, Massachusetts, New York, and Rhode Island met and did not accept the act, and the Governors of Maine and Washington did not accept.

By the close of the fiscal year ended June 30, 1923, all State legislatures had met since the passage of the act and 40 States had accepted the terms of the act, the 8 States not accepting being Connecticut, Illinois, Kansas, Louisiana, Maine, Massachusetts, Rhode Island, and Vermont. In Maine the bill providing for acceptance was vetoed by the governor after it had passed the legislature by a substantial vote. In Illinois, Kansas, and Louisiana the act passed the senate but in the first two States it did not come to a vote in the house and in Louisiana it was rejected by the house. The legislatures of Connecticut, Illinois, Kansas, and Vermont failed to uphold the governors' provisional acceptance of the previous year. The original plan of paying Federal funds to the States provided for two payments to each State out of the appropriation for any fiscal year.

PAYMENT OF FEDERAL FUNDS TO THE STATES.

Fiscal year 1922.

The act provides that the appropriations shall be available to the States for one year after the close of the fiscal year.

The first payments to the States were not made until May, 1922. This delay was caused by necessary preliminary correspondence with the States in regard to outlining plans of work and by waiting for the approval of certain forms requiring preliminary decisions by the Comptroller General of the Treasury.[6]

The first payment from the 1922 appropriation covered the amount which the State estimated it would expend by June 30, 1922. A second payment was made after June 30, 1922. This payment was made as soon as the Board of Maternity and Infant Hygiene approved the State plans, including the budget for the remainder of the 1922 appropriation.

The States which did not submit plans in time to have them considered prior to June 30, 1922, were paid the entire amount of the fund due them as soon after June 30, 1922, as their plans and budgets covering these funds were approved. Separate reports of expenditures were asked for the 1922 and 1923 appropriations.

Payments were made to 43 States from 1922 funds.[7] Of these, 22 matched the full allotment available, 6 matched it in part, and 15 accepted only the $5,000 grant outright.

Fiscal year 1923.

Of the 41 States which conducted cooperative work with 1923 funds, 17 matched the full apportionment, 18 matched it in part, and 6 accepted only the $5,000 grant without matching. While 3 States—California, Kansas, and Maryland—which matched in full the three months' appropriation for 1922 matched only in part the

[6] See Appendix C for rulings as to appropriations.

[7] California, Illinois, and Vermont did not spend their 1922 funds, which were later returned to the Treasury.

1923 funds, and 2 States—Illinois and Vermont—did not accept any Federal funds for 1923, 6 States—Colorado, Florida, Idaho, Tennessee, Utah, and Washington—which accepted only the $5,000 granted outright for 1922 increased their State appropriations and matched in part the 1923 funds.

By June 30, 1923, all State legislatures had met, and the appropriation acts passed enabled 40 States—all having budgets in excess of the unmatched $5,000—to cooperate during the fiscal year 1924. New York, which had not accepted in 1922, accepted the act in 1923 and made its first appropriation to cover the fiscal year ending June 30, 1924.

Since the maternity and infancy act became effective, 33 States which have accepted the act have made definite increases in their appropriations for the promotion of maternal and infant hygiene work, 6 have continued to appropriate the same amount as before, and 2—California and New Jersey—have decreased their appropriations. California's reduction is part of a general economy program in all State departments. New Jersey reduced the appropriation it had been making for its division of child hygiene, $150,000, by $75,000, the amount available for that division from the Federal Government.

THE FEDERAL BOARD OF MATERNITY AND INFANT HYGIENE.

The first meeting of the Federal Board of Maternity and Infant Hygiene was held on April 18, 1922, in the office of the Children's Bureau. At this meeting the Chief of the Children's Bureau was elected chairman of the board, and the plans of 23 States for the remaining three months of the fiscal year 1922 were approved. While the board agreed that the act was intended to promote the welfare of mothers and children during the first few years of life, it was recognized that some flexibility was necessary, especially in those States in which only school health work had been done. The plans of six of these States were accepted with the proviso that the approval of certain items, such as work with the school child and courses in the hygiene of maternity and infancy in girls' and women's schools, should not constitute a precedent for the approval of such items in subsequent plans.

The Federal board held six meetings from April 18, 1922, to June 30, 1923, and approved 35[8] State plans for the last quarter of the fiscal year ended June 30, 1922, and 40[8] State plans for the fiscal year ended June 30, 1923.[9]

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[8] Includes Illinois, which was prevented by State law from using Federal funds.

[9] One plan for 1922 and three for 1923 were approved by the board in intervals between meetings.

STATE ADMINISTRATION.

ADMINISTRATIVE AGENCIES AND THEIR PERSONNEL.

State agencies cooperating with the Children's Bureau.

The maternity and infancy act provides that in States in which there is a child-welfare or child-hygiene division in the State agency of health this division shall be the local administrative agency. Otherwise, the State legislative authority must designate or authorize the creation of a State agency with which the Federal Government may cooperate in the administration of the act.

In the majority of the States the administration is lodged in a child-hygiene division of a State department of health, but exceptions may be noted in the following list of State agencies cooperating in the administration of the act:

State.	Department.	Division.
Alabama	State board of health	Bureau of child hygiene and public-health nursing.
Arizona	do	Child-hygiene division.
Arkansas	do	Bureau of child hygiene.
California	do	Do.
Colorado	Department of public instruction.	Child-welfare bureau.
Connecticut	Department of health	Bureau of child hygiene.
Delaware	State health and welfare commission.	Child-welfare department.
Florida	State board of public health	Bureau of child welfare.
Georgia	State board of health	Division of child hygiene.
Idaho	Department of public welfare.	Bureau of child hygiene.
Indiana	State board of health	Division of infant and child hygiene.
Iowa	State university, board of education.	Division of maternity and infant hygiene.
Kansas	Department of the State board of health.	Division of child hygiene and public-health nursing.
Kentucky	State board of health	Bureau of maternal and child health.
Maryland	Department of health	Bureau of child hygiene.
Michigan	do	Bureau of child hygiene and public-health nursing.
Minnesota	State board of health	Division of child hygiene.
Mississippi	do	Bureau of child welfare.
Missouri	do	Division of child hygiene.
Montana	do	Division of child welfare.
Nebraska	Department of health and welfare.	Division of child hygiene.
Nevada	State board of health	Child-welfare division.
New Hampshire	State board of health	Division of maternity, infancy, and child hygiene.
New Jersey	Department of health	Bureau of child hygiene.
New Mexico	Board of public welfare	Bureau of child welfare; Bureau of public health, division of child hygiene and public-health nursing.

State.	Department.	Division.
New York	Department of health	Division of maternity, infancy, and child hygiene.
North Carolina	State board of health	Bureau of maternity and infancy.
North Dakota	Department of public health.	Division of child hygiene and public nursing.
Ohio	Department of health	Division of child hygiene.
Oklahoma	State department of health	Bureau of child hygiene.
Oregon	State board of health	Do.
Pennsylvania	Department of health	Preschool division, bureau of child health.
South Carolina	State board of health	Bureau of child hygiene and public-health nursing.
South Dakota	do	Division of child hygiene.
Tennessee	Department of public health.	Division of maternal and infant hygiene.
Texas	State board of health	Bureau of child hygiene.
Utah	do	Do.
Virginia	do	Bureau of child welfare.
Washington	Department of health	Child-hygiene division.
West Virginia	do	Division of child hygiene and public-health nursing.
Wisconsin	State board of health	Bureau of child welfare and public-health nursing.
Wyoming	Department of public health.	Bureau of maternal and infant hygiene.

Personnel of the administrative agencies.

The personnel of the State administrative agencies must necessarily vary with the size of the budget and the type and the size of the staff developed. All of the States report difficulty in securing well-trained and experienced personnel. This difficulty has been greatest in States initiating their work in this field.

Full-time personnel has been more or less subject to change during this first year, but the following brief summary gives the various types and numbers employed according to figures submitted after State work was well established and reported in the second activities report, covering the period January 1 to June 30, 1923:

(*a*) *Physicians.*—Only 23 of the 41 cooperating States (56 per cent) reported full-time physicians on their staffs. Eight States reported part-time physicians only, and 9 had none at all. Indiana employs 5 full-time physicians, Pennsylvania and Michigan 3 each, and 9 other States employed 2 each. Three States that had one full-time physician had in addition physicians employed on part time, Montana having 7, Minnesota 3, and Arkansas 1.

(*b*) *Public-health nurses.*—There was no State which did not employ at least one public-health nurse. Pennsylvania and New Jersey employed 146 and 83, respectively, who devoted part of their time to infancy and maternity work. Alabama, Delaware, and Mississippi have the next largest numbers—28, 18, and 16, respectively. Tennessee reports 12 and Texas 10 giving full time to this field. Fourteen of the States employing full-time nurses had in addition from 1 to 39 nurses doing part-time maternity and infancy work, Indiana having 11 and Kentucky 6.

(*c*) *Dental staff.*—Virginia and Idaho employ dentists, Virginia on full time and Idaho on part time; and California, Delaware, and

Georgia employ dental hygienists. Volunteer services by dentists and dental hygienists were reported in several other States.

(*d*) *Other members of the staff.*—In addition to the clerical staff, some of the States reported social workers, community organizers, inspectors, health teachers, and dietitians. An exhibit director, a moving-picture operator, and a chauffeur were each listed in one or more of the reports.

GENERAL EDUCATION.

Educational activities have necessarily played a large part in the development of State maternity and infancy programs during this initial period because the success of the undertaking was to a very great extent dependent upon the understanding, response, and cooperation of the general public.

These activities have usually consisted of lectures, talks, demonstrations, exhibits, educational films, and so forth, by the director or other members of the State staff.

No effort was made by the Children's Bureau to determine the numbers of individuals reached by literature, by meetings, or by individual contact in this educational work. Obviously, even though the local worker may have kept reports with a fair degree of accuracy, it is impossible to record or measure the far-reaching effect of any educational work. Practically every local nurse or other health worker does a considerable amount of incidental educational work.

In some few States appeal or approach to the general public or even to special groups seems to have been entirely overlooked and the promotion of the program left entirely to the individual contacts made by a county or community public-health nurse. Work under such a régime naturally develops slowly and thus raises the question not only as to whether the program should not be developed more rapidly, but also as to whether a responsive community group would not create enthusiasm for the work and be an added incentive to the public-health nurse.

HYGIENE OF MATERNITY.

Prenatal hygiene.

The usual methods by which information as to the hygiene of pregnancy is given are: (1) Distribution of literature and (2) consultations.

Literature.—Twenty-five States reported using booklets, pamphlets, or letters, devoted wholly or in part to prenatal care. Only a few States have issued pamphlets on this subject, as most of them prefer to use the bulletin of the Children's Bureau, but several excellent and attractive leaflets stressing the fundamentals of prenatal care have been issued.

A number of State directors of child hygiene have compiled bibliographies on all phases of infant and maternal hygiene for lay readers and have arranged with State libraries to furnish books on these subjects.

The demand for the bureau's pamphlet, Prenatal Care, has been so far in excess of the number that the bureau has been able to

supply, that several States have purchased thousands of copies from the Government Printing Office or have reprinted the bulletin.

In an effort to reach individually a large number of expectant mothers, the use of serial prenatal letters has been increased. Sets of 5 to 12 prenatal letters, usually sent monthly, were found to be in use in many States. The number of women reached in this way apparently varied directly with the importance attached to it in each State and with the methods employed in obtaining names of expectant mothers. Usually the physicians of the State were notified by the State child-hygiene division of the availability of these letters, and many responded by requesting that such information be sent to their patients. Recent reports indicate that this cooperation on the part of physicians provides by far the largest single source of names.

The prenatal letters were also mailed on requests from public-health nurses, State public-health associations, local registrars, women's clubs, cradle rolls, and the press. One State which had been using these letters for several years had a mailing list of 2,300; another State had increased its list between February and November of the same year, largely through the cooperation of the public-health nurses in the State, from 600 to 2,000.

As a part of Minnesota's general plan for promoting the hygiene of maternity and infancy a definite study course has been developed, which is conducted as a correspondence course for individual mothers or as a group-study course conducted by a leader or teacher in connection with a women's club. Both of these are cooperative activities, their efficiency being dependent largely upon the interest and cooperation of a State advisory board, on which are represented the extension service and home-economics department of the State university and the most prominent women's clubs of the State.

The study course in the hygiene of maternity and infancy covers a 15-week period and consists of one lesson each week. These lessons were prepared by the director of the division in collaboration with the departments of obstetrics and pediatrics of the University of Minnesota Medical School and circulated by the extension division of the State university. The object of these lessons is to give instruction in the care of women in motherhood, which secondarily means a gradual improvement in the general public health.

Summary of the course.

Lesson 1. Introduction.
Lesson 2. Pregnancy—description and changes.
Lesson 3. The unborn child.
Lesson 4. Prenatal hygiene, Part I.
Lesson 5. Prenatal hygiene, Part II.
Lesson 6. Complications and accidents of pregnancy.
Lesson 7. Confinement and preparations for confinement.
Lesson 8. Labor and the lying-in period.
Lessons 9 to 15. Care and feeding of the child from birth to school age.

Each lesson concludes with definite questions which are to be answered by mail, and upon a satisfactory completion of the course a certificate is sent from the university to the candidate certifying

that such a course has been completed. These courses have been well received, as shown by their increasing popularity, the correction of the replies already having become a considerable task.

The methods used in securing applicants for the courses were:

1. Explaining the purpose of the course, the contents in general, and the method of applying to many types of women's organizations, such as: Tourist clubs, community clubs, church ladies' aid societies, sewing clubs, farmers' clubs.

2. Interviewing individual members of communities.

3. Talking to women who attended poultry shows, farmers' institutes, county fairs, and so forth.

Maternity consultations or centers.—Thirty-six States reported infant-health conferences, and 31 States reported maternity conferences or instruction. Nineteen reported the organization of health centers, and 12 reported the organization of maternity centers. While the maternity center or consultation project can not be considered of more recent development than the children's health center or conference for the examination of infants and other children, its popularity has not developed simultaneously, largely because of the commonly accepted but mistaken belief that all educational approaches to maternal welfare must be made indirectly through the child.

A maternity consultation center is a place where expectant mothers may report for individual or group conferences on the hygiene of pregnancy and preparation for confinement. As developed in the large centers of population a maternity center also provides physical examination by physicians and in many instances follow-up visits by nurses, especially in all abnormal cases.

Since the practicability and success of all State activities are dependent in a large measure upon the character and extent of previous preliminary educational activities, it was not surprising to find that few States had sufficiently matured plans for the establishment of maternity consultation centers, although plans had been made looking to their eventual establishment.

Consultations at centers where women may be given personal instruction and examination have been developed under several methods.

In States doing their first educational work of this kind conferences and examinations of preschool children appear to have been considered the best or the only means of approaching mothers. In Iowa a woman physician accompanied the pediatrician who examined the preschool children and had individual talks with all mothers, especially young ones, regarding the value and need of early prenatal care. As the character and availability of these personal conferences become known other prospective mothers voluntarily seek such consultation.

In Pennsylvania the establishment of maternity centers had been undertaken on a state-wide scale. The work is conducted in the previously established health centers for infants and preschool children, certain days being designated for maternity work. In strictly rural sections the prenatal work is conducted by State nurses who do urinalyses and take blood pressure for the local physicians

making examinations. Many physicians rely on such centers for the prenatal care of their private patients.

Wisconsin is promoting consultative rural or small-town services by having an obstetrician and a nurse conduct either a single demonstration conference or repeated conferences at stated intervals. The service includes prenatal instruction to the individual mother and a complete physical examination, including internal examination. The types of expectant mothers who are reached by the plan are: (a) Those without preparation for confinement, (b) those sent or brought by physicians for consultation or advice, and (c) those brought by midwives.

Another plan for extending prenatal service is being developed in Ohio along the lines which have proved successful in tuberculosis and venereal-disease work—that of having obstetricians from the larger cities conduct consultations in adjacent extraurban territories. Local physicians, midwives, and public-health nurses bring the prenatal cases for these consultations.

All follow-up work from maternity consultations is done by public-health nurses, and the service varies from one or more routine home visits with reports to physicians, to assistance in preparation for home confinement.

The laboratory facilities for blood tests, examination of smears, and urinalysis—all necessary for standard prenatal care—differed widely in 30 States. Such facilities were available frequently in central or branch State laboratories, but urinalysis is usually done by a local laboratory or private physician, although in a number of States the public-health nurses are equipped with simple apparatus for making such analyses. In other States the physicians rely upon the public-health nurses to see that specimens are sent regularly to them for examination.

Confinement care.

Comparatively few specific developments for adequate confinement care appear in this first year's reports. With the educational work directing attention to the value and need of prenatal supervision the provision of facilities for skilled medical and nursing care at confinement will undoubtedly develop.

The training and supervision of the midwife (see p. 14) as now undertaken promise some improvement in home confinements by midwives.

The individual instruction given by public-health nurses to expectant mothers as to preparation for home care and procuring competent medical care will probably bring about a public demand for better medical and nursing facilities.

Minnesota is the one State which has attempted on an extensive scale a specific undertaking for assistance to rural physicians in better home-confinement care. The doctors in rural communities complain that one of their big problems in confinement work in the country is the lack of sterile supplies for use in delivery. Recognizing the necessity for cleanliness in home deliveries the State child-hygiene division outlined as one definite project the supplying of sterile emergency obstetrical packages in communities where the need exists. An approved model package containing the minimum obstetrical supplies, the material for which was purchased at regular

retail prices, and which any woman of ordinary intelligence can make for herself, was evolved and explicit directions for its preparation were printed. On request a nurse from the State child-hygiene division is sent out to demonstrate this package, or a sample package is sent to groups interested in making them. Appeals are made to civic, religious, or social organizations to raise the funds and to undertake the making and distribution of these sterile obstetrical packages in cooperation with the county nurse. Women's organizations are much interested in preparing and providing these packages, and incidentally useful knowledge as to the necessity for having supplies sterile is disseminated. The sterilizing of the packages is done in a near-by hospital or at the homes of responsible and properly instructed women.

State reports during the last year showed that few States had even attempted to survey the hospital facilities available for obstetrical cases. This important problem will naturally assume larger proportions as the result of the present educational activities and should be considered in future plans, as well as the need for standard obstetrical technique in hospitals.

Postnatal care.

The importance of adequate care for mothers during the period immediately following confinement has been emphasized in comparatively few programs during the past year. The provision of trained nursing care in home confinements is a tremendous problem still awaiting solution.

The value of a post-partum or discharge examination six weeks after confinement is important enough to be emphasized frequently, both in personal contacts and through literature. Much of the invalidism following childbirth may be overcome by the simple procedure of having the pelvis examined, which should be the last step in well-conducted confinement care.

Mothers' classes.

The term "mothers' classes," while implying group teaching on the subject of prenatal, infant, and preschool health, seems to have been variously interpreted, in some instances a single group meeting having been considered a "class."

While 15 States reported class instruction, analysis of the reports indicated that a much smaller number had definitely planned courses of instruction for class work. Many of the reported "classes" had been conducted by public-health nurses throughout the State in selected counties or in a few cities, as the initial effort toward the establishment of a consultation center.

Without disparaging the value of such work it is obvious that no single general meeting can be considered class instruction.

In Pennsylvania a series of eight "lessons for mothers" was prepared in the summer of 1922 with the idea that doctors should be asked to conduct regular classes in the various baby centers throughout the State. A personal letter from the State commissioner of health was addressed to all doctors in such centers, and they were asked to undertake the instruction of mothers, using the lessons which had been prepared. Simultaneously letters went to the nurses with the suggestion that mothers be regularly enrolled and that every

effort be made to keep the group together until the series was finished. The plan was to have the talk made by the doctor, the lesson sheets given to the mothers and studied at home, and questions asked on the subjects at a subsequent time. Seventy-two physicians have agreed to give this instruction.

Midwives.

One of the significant concrete achievements of the maternity and infancy act during this first year is the focusing of attention on the midwife problem of the United States. Since the initiation of activities under the act, 31 States have undertaken to investigate their midwife problems. The plans of the States show a wide variety of activities dependent entirely upon local conditions. Thirteen States have begun with state-wide surveys, and 6 States are making county or community surveys. Ten States acknowledge that they know very little about midwives; others claim that the problem is a negligible one.

Six States do not register, examine, or license midwives, but in all except one the reporting of all births is required.

The midwife problem throughout the country varies with the population. The task which confronts the Southern States with their enormous numbers of illiterate, aged negro midwives, untrained except by observation, is scarcely comparable to the undertaking which has been successfully carried out by New Jersey in obtaining the cooperation of well-trained foreign midwives. Mere numbers indicate the degree of effort which must be made to influence the midwives. According to replies to a questionnaire sent out by the Children's Bureau, Mississippi has 4,000 midwives, North Carolina 6,500, Virginia 6,000, and New Hampshire only 7. New York State, exclusive of New York City, has an annually diminishing number of midwives. At present there are 22 counties with no licensed midwives. The 428 midwives practicing in the State in 1922 represented 23 nationalities, Poles, Italians, Germans, Americans, and Slavs other than Poles predominating. Doubtless a similar situation exists in the densely populated industrial and mining States. For instance, the 15 registered midwives reported by Colorado represent six foreign nationalities. The Southwestern States with the Mexican midwives and the Pacific Coast States with the Japanese midwives illustrate still further the racial and language complications.

The 1920 occupational report of the Bureau of the Census enumerated 4,773 midwives practicing in the United States. The check up by the States indicates a total of 26,627 midwives authorized to practice in 30 of the States. This figure, however, is only partial inasmuch as with few exceptions these States report that they have not been able to ascertain the total number actually practicing. A rough estimate by the States places the total at 45,000, but even this estimate probably falls short of the actual number.

The importance of the midwife in maternal and infant hygiene varies with the number of births attended by them in the different States. Thus it is of great importance in Mississippi, where 48 per cent of the births are reported by midwives, and relatively insignificant in Nebraska, where only 2 per cent are thus reported. In one State midwives attended 73.5 per cent of the negro births in 1921. The total number of births for that year in another State was 69,116, one-third of which were reported by the 6,036 registered midwives.

A recent survey in Michigan shows that 96,035 births were registered in 1921, that 6,632 birth certificates were returned by 1,162 midwives, and that at least 1 birth in every 12 was not attended by a physician.

Confronted by the results of their study, the State health departments are seeking practical means of handling the midwife situation. Eighteen health officers have decided that training, licensing, and supervising the midwives in their rural communities is at present the only practical means of attempting to solve the problem.

In 9 States—Connecticut, Delaware, Kentucky, Mississippi, New Jersey, New Mexico, Pennsylvania, South Carolina, and Virginia—supervisors of midwives have been appointed. and in others some type of instruction has been provided, either through letters, simple rules and regulations, or bulletins, or through classes. This class instruction has been given by physicians, usually the health officers, by public-health nurses, or, as in Connecticut, by registered midwives. The classes meet once only in some States and in others they meet at regular intervals, weekly or monthly, for a period. The instruction consists of an explanation of the State laws governing the practice of midwifery, of the technique which should be employed in caring for mother and baby, and of the limitations of the midwife.

In Pennsylvania two women physicians who speak several languages are on the staff of the State department of health. They instruct midwives, using their mother tongues. In another State a well-trained obstetrician travels about the State as a consultant and in rural districts both physicians and midwives bring their cases, especially the complicated ones, for consultation.

As a result of these methods of instruction States report the marked improvement in the type of care which the midwife gives and also that physicians are being called by the midwives much more frequently for abnormal or complicated cases. In New Jersey and New Hampshire supervision and instruction over a period of years have caused a decided decrease in the number of registered midwives.

Improved reporting of births has been credited to the midwife as soon as she comes under supervision. The fundamental importance of early and accurate birth registration is appreciated by all those interested in preventive health measures.

A marked decrease in ophthalmia neonatorum has occurred among midwives' cases since legislative enactment in recent years has made the use of a prophylactic by physicians and midwives compulsory in 29 States. Free prophylactic outfits are being distributed in many States, and the reporting of inflammatory eye conditions is compulsory in a far larger number.

Complete registration and supervision of the midwife still involve many unattacked problems. So far the majority of midwives have welcomed assistance. Many of the untrained negro midwives are pathetically eager to attend classes.

New Jersey, a State which demands high qualifications before granting a midwifery license, reports:

> Every puerperal death in this State is referred to this bureau (child hygiene). A letter is then sent to the physician signing the certificate to inquire whether a midwife has been connected with the case. An affirmative

reply is followed by an investigation. Stillbirths and infant deaths where midwives have been in attendance are investigated. The department depends upon personal contact and individual instruction to each midwife in addition to demonstrations at meetings. Experience has indicated that literature does not reach the midwife who most needs instruction. Every investigation, whether of a delivery, puerperal death, or ophthalmia neonatorum, is used as the basis for teaching that particular midwife.

In Pennsylvania, a State that has selected four counties for intensive work with midwives, in addition to monthly meetings for instruction and demonstration, and frequent inspection of equipment and home, the attempt is made to have all delivery cases visited within 48 hours of birth by the inspector or deputy inspector (a woman physician). The midwife campaign in this State is summarized as follows:

1. To limit the survey work to four counties.
2. To make the census absolutely complete, listing all licensed women, making their acquaintance, and securing their cooperation.
3. To get as complete information as possible about all unlicensed women, warning them that they must stop confinement work.
4. To arrest unlicensed women who continue to act as midwives in spite of warnings, fining them for first offenses and putting them in jail on second offense.
5. To have all delivery cases visited by the inspector or deputy within 48 hours of birth.
6. To oversee the midwife's personal cleanliness and to inspect her home and her equipment.
7. To hold at least monthly meetings for instruction and demonstrations.

HEALTH CONFERENCES.

In a number of States health conferences appear to have been considered the only feasible approach in initiating work with mothers and young children. These conferences afford a means of contact indirectly through the child, with groups of mothers as well as with individual mothers and subsequent individual home instruction.

Health conferences have generally been developed in one of the three following ways:

1. By a county health unit.
2. Independently by county or community public-health nurse.
3. By interested lay groups in cooperation with local doctors and nurses.

In many States county public-health nurses whose employment has been made possible by Federal funds have begun the first child-health work in rural localities.

The following excellent procedure has been adopted in Kentucky. When a nurse enters a county to organize the work a letter is sent from the State board of health, acquainting the physicians of the county with her coming and asking their cordial reception of her and her work and their cooperation in it. She meets first all the doctors and explains the work, asking their help. Next she meets the active organizations in the community and puts her plan before them. A committee chairman is selected, who appoints a corps of lay helpers to visit each home and ask that the mother bring all preschool children to the child-health conference. A motor corps is formed, and

those mothers who are not able to attend unless transportation is provided are brought to the conference by the motor corps. Another group of about six women assist in weighing and measuring the children and do the record work, as well as undressing the children for the physical examinations, which are made by the attending physician. Under this plan 40 children are examined in a two-hour period. Follow-up work in the homes is, of course, done by the county nurse.

In many counties where the only public-health worker is the county nurse the beginning of a conference center may be the nurse's office or other centrally located room in the county seat. It may also be used as a rest room for mothers coming into town. It is possible for the county nurse to arrange to spend one day a week in the center, preferably market day, to become acquainted with mothers, answer questions, weigh infants and other children, and dispense literature.

Analysis of the State reports on "children's conferences arranged" and "health centers organized,"—the former indicating a single meeting or mere examination or inspection of infants and preschool children and advice to the mothers with or without definite follow-up work, the latter implying a permanently established center for continued work and home follow-up—shows that only two States reported neither conferences nor health-center activities. Establishment of both conferences and health centers—the latter being the permanent outgrowth of the previous conferences—was reported by 17 States. Nineteen States reported only the holding of conferences.

The number of conferences reported by States varied from 2 to 316. Granting that single or itinerant conferences, including examination of children, may serve purely as effective educational propaganda, the objectives to be attained by this method should be weighed in order that the development of local permanent community work be not overlooked. Several States reporting large numbers of conferences last year reported no permanent health centers established. In one State conferences have been conducted for a number of years, and an increased budget under the maternity and infancy act with an increased staff only increased the number of these conferences without any apparent attempt to enlist local initiative and responsibility for carrying the work on permanently. The aim may be to set up a State organization sufficiently large to undertake entire supervision of physical examinations of children of various age groups at stated intervals, but the opportunity to stimulate local initiative and responsibility which these examinations afford should not be overlooked.

Several States provide for reaching rural districts by means of motor cars specially equipped for making physical examinations and demonstrations. Kansas has a fully equipped railroad car, and other States use motor trucks to facilitate transporting from one community to another their equipment for conferences.

Where local physicians do the examining it has been found possible to plan for at least monthly conferences. In some places one local pediatrician may voluntarily conduct the examinations, always safeguarding the ethics of his profession by not prescribing or doing corrective work on any of the children, but always referring them to the family physician. In other localities a number of local physicians rotate in contributing voluntary services for these conferences. It is

a debatable question as to whether a community should indefinitely accept gratis the service of generous public-spirited physicians. At present there is a definite tendency toward providing nominal remuneration for such public consultative service.

One State has been able to develop permanent consultations extensively by paying local medical examiners $1.50 for each hour of consultation. Other localities pay $5 a consultation, the consultations varying in length from two to four hours. In a number of States the medical director of the State child-hygiene division plans to make the physical examination sometimes at all conferences and sometimes only in areas where no local cooperative medical service is available.

In some States, where the director is not a physician or is a physician who has had no special training in pediatrics, a pediatrician has been added to the staff to conduct the conferences. This method has the advantage of insuring not only thorough modern physical examinations such as specialized training provides but also of affording an opportunity for consultations between local general practitioners and a child specialist on difficult or obscure cases.

DENTAL HYGIENE.

Only 6 States reported dental clinics in connection with their maternity and infancy programs. The dental work that has been undertaken in our large city schools has almost conclusively demonstrated the futility of attempting a satisfactory system of reparative work, because of the great expense involved. Those who have been interested in the solution of the problems of mouth hygiene are now almost unanimously agreed that public service in this field must be confined at first largely to educational and preventive measures to remedy the abnormal prenatal and preschool causative factors.

California, Delaware, and Georgia reported the employment of dental hygienists on full or part time, who cleaned, polished, and examined the teeth of preschool children brought to health conferences for examination and instructed mothers in health habits, dietetics, and the importance of mouth hygiene as maintained by the use of the toothbrush.

That many dentists are beginning to appreciate the importance of beginning prophylactic dental care before the school age is shown by the fact that Arkansas, Kentucky, New Mexico, and Delaware reported the cooperation of local dentists at preschool conferences. At least two State dental societies—those in Colorado and California—are reported as cooperating.

The importance of dental care during pregnancy has been emphasized in a number of leaflets on prenatal care issued by the States; yet none of the prenatal or maternity consultations reported has provided for such care.

Literature and reports of research during the last year indicate a realization of the importance of and need for further investigation of the formation and the structural qualities of teeth in relation to diet during the period of pregnancy and maternal nursing. Whether or not actual dental repair work should be provided in centers in conjunction with an obstetrical examination may be a moot question, but there can be no question as to the desirability and necessity for

impressing upon the general public the importance of the mother's dental hygiene both to her general health and to the dental development of the child.

NUTRITION CLASSES.

In most States reporting nutrition classes, doctors and nurses emphasized nutrition incidentally in connection with mothers' classes, demonstration work, conferences, home visiting, and by distribution of literature, diet slips, and so forth. Only 13 States—Alabama, Arizona, Arkansas, Delaware, Kentucky, Maryland, Mississippi, Missouri, New Mexico, Ohio, Texas, Utah, and Virginia—reported distinct nutrition classes as a part of their maternity and infancy programs, and a special nutrition worker was employed on full time in only one State—Ohio—and on part time in three—Missouri, Mississippi, and Indiana.

Ohio reported that considerable time had been devoted to the preparation of a series of weekly menus for the children of the average workingman's family, to be published by the newspapers of the State, and Mississippi, employing a part-time nutrition worker, reported giving talks, exhibits, and demonstrations to groups of mothers, and also special help and suggestions to nurses. The best results were said to have been obtained through personal contacts in home visits and at infant consultations, where proper feeding and other phases of nutrition have been emphasized.

Comparatively little has been done to apply to the preschool period such nutritional methods as have been successfully developed in nutrition work in schools. The shifting of emphasis to the earlier age period would in this, as in other fields of preventive work, lessen the need for such activities during the school age.

The director of the Kentucky State Child-Hygiene Division, in addition to supervising nutrition classes in connection with health centers, is cooperating with the home-economics department of the State university by outlining a short course for teaching in the schools, colleges, universities, and normal schools in the State, on the planning and preparing of food for the infant and preschool child.

A State holding itinerant infant conferences (Minnesota) sends out a letter to the mother of each child under 2 years of age in the county to be visited, inviting and urging attendance. At this conference the mother is furnished with a copy of the recipes, and the nurse then demonstrates the preparation of the food.

Breast-feeding campaigns, or special efforts to promote maternal nursing, were mentioned in the plans of several States. In New Jersey the visiting nurses follow up all newborn babies and supervise unmarried mothers to prevent the early separation of the child from its mother, while in Delaware they follow up the mothers who come to the prenatal centers and see that instructions as to breast feeding are carried out.

A study by Indiana showed that of breast-fed babies 13 per cent were poorly nourished, while of babies fed on cows' milk, 15 per cent, and of those fed on condensed milk, 22 per cent were poorly nourished. It was reported that only 70 per cent of the mothers included in this survey were nursing their babies.

The importance of breast feeding as a factor in the reduction of neonatal deaths can not be overestimated. Proper emphasis on the preventive aspects would reduce manyfold the need for special nutritional work after the period of infancy.

VITAL STATISTICS.

Birth registration.

Discussion of the maternity and infancy act and its passage have given fresh impetus to birth registration in many States. Recognition of the fundamental importance of accurate vital statistics is general, judging from the number of States (21) which included birth registration as an item in contemplated plans.

Of the 17 States which are cooperating under the Federal act and which are not in the birth-registration area, 11 have instituted special work to obtain more complete registration.

Of the 21 States stressing accurate birth registration, 10 are already in the area, but the authorities recognize the need for continued vigilance and local stimulation if the required standard is to be maintained.

A description of the methods used by several States in this field may be suggestive. A state-wide test of birth and death registration was made in Arkansas by the combined efforts of the League of Women Voters, the Federation of Women's Clubs, and the Parent-Teacher Association. In making this test the counties were divided into districts, and each worker visited 10 or 12 homes assigned to her. The small staff of the bureau of child hygiene directed the survey, furnished questionnaires, and tabulated resulting information for county officials. Though the test was made by untrained workers, hundreds of previously unrecorded births were reported. The value of the test must be measured not from a statistical but from an educational standpoint. As a publicity project also, the question of birth and death registration received far more general and illuminating discussion through such a canvass than a more efficient test made by experts would have received.

A second and more intensive checking up of birth and death registration was made in three counties. The finding of many unrecorded births resulted, and as a result of a house-to-house canvass in one county, the local chamber of commerce called together the doctors and undertakers and earnestly appealed to them to redeem and maintain the reputation of the city by assuming their established responsibility in reporting births and deaths.

In several States seeking admission to the birth-registration area, checking up records has been attempted only incidentally at health conferences at the time the children are examined. By this method Arizona reports the sending of approximately 3,000 copies of original certificates to mothers who were uncertain as to whether or not births had been recorded as well as 444 supplemental records adding the name of the child. In addition 93 supplementary reports were sent to correct errors in data on certificates.

Florida reports that through the cooperation of the bureau of vital statistics the public-health nurses, who during the rest of the year conduct midwives' classes, devote their entire time during the rainy months, when class work is impossible, to checking up birth regis-

tration, concentrating their efforts on counties where registration is most unsatisfactory.

Under State plans cooperation with bureaus of vital statistics has varied from paying the salary of a full-time clerk to paying for part-time work by two or more clerks, depending upon the amount of additional statistical work required. These clerical assistants also use the data received in the bureau of vital statistics as an aid in sending out literature to the parents. Some divisions have also stimulated birth registration by furnishing attractive certificates to be sent to the parents on receipt of a properly prepared birth record. In a number of other States every public-health nurse is instructed to supplement the work of the bureau of vital statistics by continued efforts to improve birth registration.

As a result of the work done by a public-health nurse who gave special attention to the improvement of birth registration in a selected group of counties in Kentucky, the State reports a 10 per cent increase in birth registration in the counties visited.

Maternal mortality.

Reports from several States show that coincidentally with checking up on birth registration these States are making efforts to collect more definite information on maternal mortality. In one State during the last year questionnaires have been sent to each physician signing the death certificates of women of child-bearing age, in order to determine whether pregnancy was a contributory cause of death.

SURVEYS.

In the planning of State programs it was early recognized that more accurate knowledge concerning conditions affecting the welfare of maternity and infancy was necessary, not only as a foundation upon which to build an efficient program, but because such knowledge would increase public interest in a preventive program. Consequently, 20 States have made surveys or studies, and nearly all of these States have undertaken more than one survey or study.

Of primary importance in a number of States have been the surveys made to secure more complete birth and death registration and to determine the number and status of midwives. (These subjects are discussed at length under their specific headings. See pages 14, 20.)

Causes of infant and maternal deaths were made a subject of surveys in six States—Connecticut, Idaho, New Hampshire, South Dakota, Arkansas, and Colorado—during the fiscal year 1923. These surveys were the result of investigations by the itinerant staff visiting each county to hold conferences; the sending of a letter to each physician signing a death or stillbirth certificate requesting detailed information; and cooperation with bureaus of vital statistics in checking up their reports. These statistics will be used by Connecticut as the basis of graphic charts showing infant mortality by age groups, distribution, causes, geographical location, and showing causes and effects of maternal mortality. New Hampshire reported that as a result of a study of several hundred families in a locality where the infant death rate was unusually high they found that no prenatal care or advice was given; that a great many mothers weaned their

babies early or did not nurse them at all, and that an intensive educational program was necessary in order to lower the infant death rate. A nurse was put in charge of the work, and at the end of six months it was taken over by the city, which had thus been awakened to its own responsibility in the matter.

A survey of available qualified medical service and maternity hospitals was made by Connecticut, and a list of physicians and nurses was published. In Idaho a survey of county and city health officials, county nurses, midwives, and hospitals where obstetrical care was available was made in order to determine the facilities for maternity care. Michigan secured data regarding the number of county nurses, prenatal and infant health conferences, other child-health activities, and hospital facilities. Statistical studies were also made in Indiana as to the kind and extent of prenatal and obstetrical care which mothers in remote and small-town districts had received.

Two State universities—the department of sociology of the University of Kansas and the department of sociology of Reed College, Oregon—cooperated with the State bureaus of child hygiene in making a study of child-caring institutions and maternal welfare.

Publication of data collected through these surveys has in many places been immediately beneficial, the locality interested assuming a larger responsibility for health conditions and manifesting greater interest and cooperation with States and local officials by both physicians and laity. In several instances the work of such surveys was participated in by local groups, such as clubs and organizations of various kinds. While the statistical information collected was probably not so reliable as if it had been done by specially trained workers, the work was locally stimulating and educational and the results valuable.

INSPECTION OF MATERNITY AND CHILDREN'S HOMES.

Thirteen States reported inspection of either maternity homes or children's homes or both. In all of these States the inspecting is done under the direction of the State hygiene divisions administering the maternity and infancy act, although the authority to license these homes is usually vested in another bureau, or in State boards of charities and corrections. Although this phase of the work has been incidental in most of the child-hygiene divisions, and although only one State—Texas—employs a full-time maternity-home inspector, the reports for January–June, 1923, give a total of 149 inspections of maternity homes and 219 of children's homes.

Private homes where young children are boarded as well as State and philanthropic institutions are included in these inspections. Several States have no law whereby the State exercises supervision over these institutions. Texas reported that while this was a pioneer undertaking, during the fiscal year 1923 it inspected 193 maternity homes, 78 infant homes, and 128 boarding homes (private). In some of these the conditions were very poor, but inspection caused a noticeable improvement, and local health authorities cooperated in effecting better sanitary conditions. In another State one community was found which had an unusually large number of women who were

supplementing their incomes by taking children to board and a number of these were reported and refused a license.

Arizona, which has no provision for supervision, reported that its staff had visited day nurseries and maternity homes and had given demonstrations and advice regarding maternal and infant care. In Connecticut, where the child-welfare bureau in the State department of public welfare has supervision over such agencies, the bureau of child hygiene has cooperated by detailing a nurse to act as inspector in order that sanitary standards may be investigated and coordinated with the social-welfare work. Utah also reported cordial cooperation in the improvement of hygienic and sanitary conditions, the establishment of better quarantine regulations for contagious disease, and the placing of the children on a scientifically balanced diet as a result of inspection.

COUNTY-UNIT SCHEMES.

Public protection of health has in the past developed principally in the larger towns and cities rather than in country districts. Inasmuch as rural health facilities have hitherto been either inadequate or completely lacking, both for general and for specialized service, it is with real satisfaction that one finds the funds provided by the Federal act being used to extend to rural areas the services and facilities so well developed in urban localities.

To provide such facilities for rural areas was the object sought by those who urged the adoption of the maternity and infancy act; and though the act does not restrict the work to extraurban localities, the intent of its sponsors has been largely carried out, for few urban activities have been contemplated in any of the State plans, the exceptions being in the nature of temporary urban demonstrations or the provision of training centers for State workers.

The county appears to be the logical unit in state-wide health undertakings. In State plans for maternal and infant hygiene where Federal and State funds have been used in matching county funds, the funds have been applied to the furtherance of county public-health nursing service. In nearly all of the Southern States, where the county health unit plan has been most extensively developed—largely as a natural outgrowth of the special campaigns conducted primarily for the control of malaria and hookworm disease—the maternal and infant nursing service has frequently developed as a part of this general health unit plan.

In those States having as an objective the establishment of full-time county health units (usually a full-time health officer, a sanitary inspector, a public-health nurse, and a clerical assistant), maternity and infancy work has been considered as a part of the general public-health program. In general, few public-health programs had been sufficiently complete to include specific maternal and infant service, although such work was in some instances incidental.

In some States where the establishment of county health units or at least the employment of a county public-health nurse is thought to be the ideal way of developing a public-health program, the plan has been to provide each county with a nurse paid by the State or jointly by the State and county. To pay the nurses supported

jointly by State and county funds, the county has contributed from one-half to four-fifths of the expense. The ultimate aim of this plan is the stimulation of local communities to assume full responsibility for a maternity and infancy program.

Inasmuch as generalized public-health nursing has been considered preferable to specialized service—at least in rural areas where specialized service has seemed impracticable—the plan generally followed has been a division of the nurse's time between maternity and infancy work and general public-health activities, only such time as is devoted to maternity and infancy work being paid for from maternity and infancy funds. This procedure naturally entails the keeping of daily reports on a time-accounting system.

In one State a maternity and infancy nurse is lent to the counties for periods of two or three months to assist the general public-health nurse in working out her maternity and infancy program. In another State a public-health nurse is lent to give demonstrations for periods of from three months to one year, with the understanding that at the end of that period the community shall assume in whole or in part the salary and expense of the nurse.

COOPERATION OF LAY WORKERS.

Preliminary and general educational work done by the States usually has resulted in the organization of local lay groups if the definite objective of the State maternity and infancy plans was permanent local work.

The most successful results were obtained where one carefully planned project at a time was undertaken and its development guided in accordance with the State program.

The plan of working through and enlisting the support of already-existing organizations, rather than attempting the formation of new volunteer groups, has much to commend it since the utilization of already-functioning groups places the responsibility largely within the organization itself. The formation of small committees or subcommittees within women's organizations to function as aides to the division of maternity and infancy or to a local nurse by sending in names of prospective mothers and mothers of young children, to whom literature may be sent or to whom home visits may be made, is one popular method of enlisting interest and assistance from lay workers. Such a committee frequently assists in arranging for a nurse's return visit or for consultation about an infant at stated intervals; it sometimes serves as a hospitality committee during the conference period.

Enlistment of volunteer groups to act in cooperation with and under the direct supervision of the State staff in furthering all State programs has been found useful. The director of one especially well-organized State division of maternal and infant hygiene writes the following: "I believe that one of the most interesting and satisfactory aspects of our work will be the development of a group of volunteer workers in each community. We will try to educate this group along the lines of public health by pamphlets sent to them and by talks which we will give them. They will learn much of their own community needs by visiting the homes and asking the

mothers to bring the preschool child to the conference, and they will also learn much by helping in weighing and measuring and in record work at the conferences. * * * If these women and men understand the needs of their community and the worthwhileness of our work, there is no question about the continuance of such work."

The organization of local committees has been undertaken in Pennsylvania through three field organizers who have visited during the first year 48 of the 67 counties and have organized lay committees to help get the necessary local machinery for opening and maintaining health or conference centers. Repeated visits of the organizers are sometimes advantageously stimulating until the work is permanently established.

In many States the director of the division of maternal and infant hygiene has been the organizer, covering only those territories which request such assistance. Usually such a successful community demonstration generates enough momentum to perpetuate itself.

In many States the local public-health nurses organize committees, make the initial preparation for State workers, and give full-time assistance to the work. Many local agencies bear certain local expenses, thus assuming a definite responsibility.

While committee work of a temporary nature has, of course, a certain limited educational value, the success of this work can best be measured by its permanency. While some of this year's reports give large numbers of local committees organized, results may be measured best by permanently organized and functioning groups. In far too many States local work utilizing lay workers appears to have been not only too limited, but also too evanescent, having no definite objective in view.

COOPERATION OF THE MEDICAL PROFESSION.

The year's reports show an astonishing number of physicians who have become interested and are cooperating locally in furthering the maternity and infancy programs in the States. The basic importance of developing maternal and infant health upon modern scientific standards has been recognized and indicated in State developments throughout the year. In a few States where the initial work has not been outstandingly successful it is largely due to lack of understanding of the purposes and plans of the State program. In order that medical cooperation might be assured, a number of State plans definitely stipulated that the State health department should not undertake work in any county or community even though a demand existed for it, until the project had been placed before and indorsed by the local or county medical society. Thus the responsibility of fulfilling a recognized local need, demanded by the public, was placed entirely upon the local medical profession.

In sections without medical societies the contemplated maternity and infancy work, even though limited to a single county public-health nurse, is usually brought to the attention of individual doctors. Frequently the State health officer sends letters to every physician in the county, announcing the coming of the public-health nurse or of other health workers and soliciting their cooperation and assistance.

Response and approval by local physicians of the State programs of maternal and infant hygiene have manifested themselves in tangible form in—

(1) Indorsement by county medical societies, the members dividing the time to serve at consultation centers.
(2) Conducting maternity centers which secondarily serve as training centers for physicians and nurses.
(3) Giving lectures to prenatal classes, mothers' classes, etc.
(4) Providing names of expectant mothers to receive prenatal letters or other literature from the State board of health.
(5) Carrying on research as to the causes of stillbirths and of maternal and infant mortality.
(6) Locating and reporting midwives for registration.
(7) Conducting classes of instruction for midwives.
(8) Giving examinations at children's health conferences.

Obviously any program which contemplates physical examinations of either mothers or young children necessitates the services of well-trained physicians. Few States have budgets sufficiently large to allow the employment of the number of physicians required to develop the State programs, and the success of the work during this past year has been largely dependent upon the generous cooperation of local physicians with vision and ideals of furthering preventive medicine through public service.

FEDERAL ADMINISTRATION.

FEDERAL STAFF.

With the passage of the act, the Children's Bureau added to its then existing six major divisions a division of maternity and infant hygiene, which is immediately responsible for the Federal administration of the act. The permanent staff of this division during the last year has included (1) a medical director, (2) an associate medical director, (3) a public-health nurse, (4) an accountant, (5) a secretary, and (6) a stenographer.

The general administrative duties in connection with State plans submitted for approval, such as checking of budgets and accounts, has involved much detail and correspondence during this initial period. As a clearing house for plans with regard to organization, activities, publications, exhibits, and other details of the State programs, the central office has rendered service to individual States.

Besides attending to the general office activities, the director and associate director, both physicians, have visited during the year every State department cooperating under the act and discussed plans of work and activities. In only a few States, however, was it possible to observe actual field work. If the central administrative bureau is to be able to supply details as to the actual working out of plans to the States seeking such information more time will have to be spent in the field.

INSTITUTES FOR PUBLIC-HEALTH NURSES.

In the beginning of the work under the maternity and infancy act one of the apparent needs for successfully and speedily furthering the programs seemed to be to make available for State and local public-health nurses in the various States information as to the types of work successfully undertaken in the promotion of maternal and infant health as well as to review or teach new and up-to-date technique, especially in prenatal, obstetrical, and postnatal care of mothers and in the care of infants.

Consequently the services of a public-health nurse were offered to the State departments administering the act. The response from the States was indicative of the approval and value of this type of service.

Between December 1, 1922, and June 30, 1923, institutes were held in 16 States. In one State two institutes were held, one in the northern half of the State and another in the southern half of the State. In another State it was possible to plan for six gatherings of three days each, geographically distributed so as to reach the largest numbers of public-health nurses.

SOUTH CAROLINA.

Bringing or sending child from another State, Territory, or country into this State for the purpose of placing; notification of State enforcing agency; certificate as to suitableness of proposed home; annual reports.—That no person, agency, or institution shall bring or send into this State, from another State, Territory, or country, any child and leaving it, place it in a foster home or procure its adoption without the person so bringing or sending the child shall first notify the Child-Placing Bureau of the State Board of Public Welfare of their intention so to do, and shall before bringing said child into this State obtain from the bureau a certificate stating that such home is, in the opinion of the bureau, a suitable home for the child; and such certification shall state the name, age, and personal description of the child, and the name and address of the person with whom the child is to be placed, and shall furnish satisfactory evidence that said child is not incorrigible or of unsound mind or body, and such other information as may be required by the bureau, and that they will remove any such child who becomes a public charge or who in the opinion of the bureau becomes a menace to the community prior to its adoption, or of legal age. The person bringing or sending the child into the State shall report at least once each year, and such other times as the bureau shall direct, as to the location and well-being of the child so long as it shall remain in the State and until it shall have reached the age of 18 years or shall have been legally adopted. **[Laws 1924, No. 728, sec. 5.]**

Violations; penalties.—Any person who shall violate any of the provisions of this act, or who shall make any false statements or reports to the Child-Placing Bureau with reference to the matters contained herein and any parent or guardian, or person receiving a child who shall give a false name or address to the Child-Placing Bureau shall, upon conviction, be guilty of a misdemeanor. **[Ibid., sec. 8.]**

Relatives exempted from provisions of act.—That the provisions of this act shall not apply to persons related by blood or marriage to such children within the sixth degree. **[Ibid., sec. 8½.]**

SOUTH DAKOTA.

Association of another State placing child within this State; bond filed with treasurer of county in which child is placed; signature of at least one freeholder of State required also approval of county commissioners; relatives exempt; other exemptions; violations penalty.—No association or society, incorporated or doing business under the laws of any other State for the purpose of caring for orphan or dependent children, shall bring or send any child or children into this State for the purpose of being placed in a family home by adoption, or otherwise without first having filed a bond in favor of this State in the penal sum of $500 with the treasurer of the county where such child is to be placed, conditioned that such child has no contagious, infectious, or incurable disease or has no deformity or is not of feeble mind or of vicious character, and that such association or society will promptly receive and remove from this State such child if it shall become a public charge within the period of five years after being brought into the State: *Provided*, That this act shall not be construed so as to prohibit any person residing in this State from receiving and adopting into his family any child or children of relatives from another State. Said bond shall be furnished for each child and must be signed by at least one resident freeholder of this State and must be approved by the board of county commissioners of the county in which such child is placed or to be placed. Any person in this State who may hereafter have in his care and custody any child who shall have been brought into this State without such bond having been filed, shall forthwith notify the board of charities and corrections of such fact and give the name of such child, its age, date of arrival and from whom it was received. Such board upon receipt of such notice shall transmit such information to the county court of the county in which such child is placed or is found, and it shall be the duty of such court to make such investigation from time to time and take such action as may be necessary under the provisions of this article for the protection and benefit of such child and the people of this State, and such court may require the person in whose custody such child may be to appear before the court from time to time and make such report touching the condition of such child, its hours of labor, and such other information as the court may desire regarding such child: *Provided*, That upon the legal adoption of any such child by such person no further reports shall be required. Any person violating any of the provisions of this section or any person who shall receive to be placed in a home, or shall place in a home, any child in behalf of any association or society incorporated or doing business in another State which shall not have complied with the provisions of this section shall be guilty of a misdemeanor and upon conviction thereof punished by imprisonment in the county fail not exceeding 30 days or by a fine of not less than $5 nor more than $100, or by both such fine and imprisonment. **[Revised Code 1919, sec. 9992.]**

TENNESSEE.

Nonresident corporation placing child within this State; guaranty required; violations; penalty.—No agency or institution of another State shall place a child in a family home in this State without first having furnished to the Board of State Charities [department of institutions[4]] such guarantee as the board may require, against disease, deformity, feeble-mindedness, or delinquency, and against the child becoming a public charge within five years of the date of such placement. Violations of this restriction shall be punishable by a fine not exceeding $100 for each offense. **[Baldwin's Cumulative Code, Supplement of 1920, secs. 4436a-65a-19 (Laws 1917, ch. 120, sec. 6, subsec. 5).]**

UTAH.

Business of child-placing defined; license required.—No person, firm, corporation, or association shall engage in the business of receiving children for placement or adoption or of placing children either temporarily or permanently in homes, or hold itself out as being prepared to receive children for either of said purposes, or solicit money for either of such purposes without having in full force a written license from the State board of health authorizing the carrying on of such business. Whoever within a period of 6 months receives for placing or actually places or assists in placing for adoption or otherwise more than two children shall be deemed to be engaged in the business of receiving or placing children within the meaning of this act. **[Laws 1923, ch. 59, sec. 1.]**

Records required.—Every agency licensed as herein provided to receive, secure homes for, or otherwise care for children, shall keep a record containing names, ages, and former residences of all children received, a statement of the physical and mental condition of such children by a competent physician; the names, former residences, occupations, and character so far as known of the parents; the dates of reception, placing out, and adoption, together with the name, occupation, and residence of the person with whom the child is placed; the date and cause of any removal to any other home; the date and cause of termination of guardianship and a brief history of each child until he shall have reached the age of 18 years or shall have been legally adopted or discharged according to law. **[Ibid., sec. 2.]**

Child from another State to be placed only by licensed agency; exemptions.—Every child brought into or sent into the State for placement or adoption in the State, shall be sent to and placed by an agency licensed under the provisions of this act: *Provided, however*, That nothing herein shall be deemed to prohibit a resident of this State from bringing or causing to be brought into the State a child for adoption into his own family. **[Ibid., sec. 3.]**

State board of health to issue license.—It shall be the duty of the State board of health to pass annually on the fitness of every agency which receives or accepts children for placement or adoption or places children in private homes. Annually at such time as the board shall direct every such agency shall make a report to the State board of health showing its condition, management, and competency to care adequately for such children as are, or may be committed thereto or received thereby; the system of visitation employed for children placed in private homes and such other facts as the board may require. When the board is satisfied that such agency is competent and has adequate facilities to care for such children, and that the requirements of the statutes covering the management of such agencies are being complied with it shall issue to the same a license to that effect which shall continue in force for one year unless sooner revoked by the board. **[Ibid., sec. 4.]**

Violations; penalty.—Every person, firm, or corporation violating any of the provisions of this act or who shall intentionally make any false statement or reports to the State board of health with reference to the matters contained herein shall be guilty of a misdemeanor. **[Ibid., sec. 5.]**

VERMONT.

Bringing dependent child into State; approval of State board, certificate therefor, and guaranty required.—A dependent child shall not be received into a home or institution within this State, without first obtaining the approval of the board of charities and probation [department of public welfare[5]] and a certificate therefor in accordance

[4] The department of institutions succeeds to all rights, powers, and duties vested by law in the former board of State charities. [Laws 1923, No. 7, sec. 42.]

[5] The department of public welfare succeeds to all rights, powers, and duties vested by law in the former board of charities and probation. [Laws 1923, ch. 7, sec. 30.]

to require the observance of the standards and technique which modern hygiene and sanitation require.

In cooperation with the Pennsylvania Department of Public Welfare a survey of the maternity homes in that State has been made. This study has been planned and directly supervised by Dr. Ethel M. Watters, the associate director of the maternity and infant-hygiene division of the bureau. The field staff consisted of a physician, Dr. June Madison Hull, and a social worker, Miss A. Madorah Donahue, in order that both the medical and social problems involved might be studied. Several other States requested similar cooperation, and it was decided to extend the study to Minnesota.

Maternal and neonatal mortality.

In order to obtain more explicit information regarding actual causes of maternal deaths and infant deaths during the first month of life—and especially to find means by which these deaths may be prevented—it is necessary to have careful analyses made of reported deaths in different parts of the country. With this in mind, as well as the desirability of stimulating local communities to deal with their individual problems, a schedule and a method of analysis have been worked out in cooperation with a State child-hygiene division. This initial inquiry shows that the number of stillbirths is appalling, and also that authentic and accurate information can not be uniformly obtained from the certificates for these deaths.

Mortality and morbidity of early infancy.

It is now generally recognized that in many communities further material reduction in the infant mortality rates is dependent primarily upon factors connected with deaths during early infancy or those occurring at birth or during the first month of life. Singularly, there is a dearth of scientific information regarding both morbidity and mortality for this early age period, so that scientific research must precede success in reducing the rate in these communities.

In Minnesota the bureau is conducting a cooperative piece of research, covering a year, on the etiology, pathology, and prevention of fetal deaths, on stillbirths, and on neonatal mortality and morbidity.

ACCOUNTING.

The financial accounting for Federal funds and for State funds used in matching has involved much detail. The necessary forms and reports were worked out after consultation with the United States General Accounting Office, with other departments and boards administering similar Federal acts, and with a special representative appointed by the Association of State and Provincial Health Officers. During the year the division accountant has visited all but one of the States in which Federal funds were expended.[10]

REPORTING OF STATE ACTIVITIES.

Semiannual reports covering the various activities included in their programs have been required of the States.

Report forms for listing such a multiplicity of activities as were involved in 42 States with public-health work at varying stages of

[10] See Appendix D, p. 42, for accounting instructions.

development could only be considered tentative during the first year of work. It was practically impossible to evolve any form which would include all of the activities undertaken in the several States, inasmuch as the State plans involved a great diversity in undertakings, each dependent upon the size of the local budget and upon previous local developments in maternal and infant hygiene.

The numerous items contained in these preliminary reports of activities were not clearly enough defined to insure that the figures reported were of value statistically. These first reports were intended to suggest the great variety of activities covered in the various State programs. With lines of work now fairly well outlined and activities well under way, future reports should more nearly record actual accomplishments along clearly defined lines.

After listing the full or part time staff members, such as doctors, public-health nurses, dental hygienists, inspectors, social workers, clerks, and stenographers, the report forms covered activities undertaken under the following subdivisions:

Educational work.—Lectures, demonstrations, exhibits, films for the general public, clubs, organizations, and special groups, such as doctors, teachers, midwives, nutrition workers, and mothers' classes.

Organization work.—This work included the organization of local committees, maternity centers, mothers' classes, midwives' classes, little mothers' leagues, health or infant centers, dental clinics, and nutrition classes.

Field work.—Under this heading a narrative report on such of the following as have been undertaken by the State is requested: Surveys, birth-registration campaigns, maternity conferences, infant-health conferences, midwives' classes or inspections, institutional inspections (maternal and infant), and so forth.

The original report forms will undoubtedly need revision as the work develops. Inadequacies in some of the detail in the forms used have been compensated by requesting a narrative report in addition to the information supplied on the forms.

ACCOMPLISHMENTS UNDER THE MATERNITY AND INFANCY ACT.

Obviously it is too early, at the end of 15 months' work, to measure definite achievements in such extensive programs as are covered by state-wide plans in maternal and infant hygiene, but the foregoing discussion of specific activities serves to indicate the work already well under way.

The general trend of activities may be summarized briefly as follows:

1. The education of the general public as to the need and value of skilled supervision during pregnancy and medical and nursing care during and following confinement.

2. Better infant care through the teaching of mothers.

3. Stimulation of the medical and nursing professions to meet the public demand for better health protection of mothers and infants, since the result of the activities now in progress must ultimately be the provision of adequate medical and nursing facilities as applied to the hygiene of maternity and infancy.

As a successful Federal-aid measure the act has already demonstrated its value in that it has—

(1) Stimulated State activities in maternal and infant hygiene.

(2) Maintained the principle of local initiative and responsibility.

(3) Improved the quality of the work being done for mothers and babies by disseminating through a central source—the Federal Government—the results of scientific research and methods of work which have been found to operate successfully.

(4) Increased State appropriations with the passage of the act. From the appropriation for the fiscal year 1922, 15 States were able to accept only the $5,000 unmatched funds. Six States were able to accept only the $5,000 unmatched from the Federal appropriation for the fiscal year 1923. However, all of the States cooperating under the act either have already accepted more than the $5,000 unmatched allotment from the 1924 Federal appropriation, or will be able to do so.

The fundamentals of a comprehensive and forward-looking program for furthering health promotion as it refers to expectant mothers, infants, and preschool children might be outlined as follows:

1. Continued education to develop public appreciation of the value of prenatal, confinement, and infant care.

2. Stimulation of complete and early registration of births.

3. Development and extension of facilities for reaching areas where no maternity and infancy work is now done.

4. Establishment of permanent health conferences for prenatal, postnatal, infant, and preschool consultations.

5. Establishment and maintenance of community public health nursing service and of follow-up work after health consultations.

6. Provision of hospital facilities for all complicated pregnancies and confinements at least and for illnesses of infants and young children, or where this is impracticable, provision of adequate medical attention and home nursing.

7. Increased local appropriations to cover all public maternity and infancy activities.

8. Improved training by medical schools in obstetrics and pediatrics, especially in their preventive and public-health aspects. Postgraduate work for general practitioners, especially those in rural areas.

9. Cooperation between State public-health authorities and medical practitioners for the effective carrying out of preventive measures.

10. Development of local responsibility for providing the facilities necessary to carry on permanently such public-health activities as are warranted by the demonstrations now being made.

APPENDIXES.

APPENDIX A.—TEXT OF THE ACT FOR THE PROMOTION OF THE WELFARE AND HYGIENE OF MATERNITY AND INFANCY.

[S. 1039—Sheppard-Towner Act; Public 97—67th Congress; 42 Stat. 135.]

An Act For the promotion of the welfare and hygiene of maternity and infancy, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That there is hereby authorized to be appropriated annually, out of any money in the Treasury not otherwise appropriated, the sums specified in section 2 of this Act, to be paid to the several States for the purpose of cooperating with them in promoting the welfare and hygiene of maternity and infancy as hereinafter provided.

SEC. 2. For the purpose of carrying out the provisions of this Act, there is authorized to be appropriated, out of any moneys in the Treasury not otherwise appropriated, for the current fiscal year $480,000, to be equally apportioned among the several States, and for each subsequent year, for the period of five years, $240,000, to be equally apportioned among the several States in the manner hereinafter provided: *Provided*, That there is hereby authorized to be appropriated for the use of the States, subject to the provisions of this act, for the fiscal year ending June 30, 1922, an additional sum of $1,000.000, And annually thereafter, for the period of five years, an additional sum not to exceed $1,000,000: *Provided further*, That the additional appropriations herein authorized shall be apportioned $5,000 to each State and the balance among the States in the proportion which their population bears to the total population of the States of the United States, according to the last preceding United States census: *And provided further*, That no payment out of the additional appropriation herein authorized shall be made in any year to any State until an equal sum has been appropriated for that year by the legislature of such State for the maintenance of the services and facilities provided for in this Act.

So much of the amount apportioned to any State for any fiscal year as remains unpaid to such State at the close thereof shall be available for expenditures in that State until the close of the succeeding fiscal year.

SEC. 3. There is hereby created a Board of Maternity and Infant Hygiene, which shall consist of the Chief of the Children's Bureau, the Surgeon General of the United States Public Health Service, and the United States Commissioner of Education, and which is hereafter designated in this Act as the Board. The Board shall elect its own chairman and perform the duties provided for in this Act.

The Children's Bureau of the Department of Labor shall be charged with the administration of this Act, except as herein otherwise provided, and the Chief of the Children's Bureau shall be the executive officer. It shall be the duty of the Children's Bureau to make or cause to be made such studies, investigations, and reports as will promote the efficient administration of this Act.

SEC. 4. In order to secure the benefits of the appropriations authorized in section 2 of this Act, any State shall, through the legislative authority thereof, accept the provisions of this Act and designate or authorize the creation of a State agency with which the Children's Bureau shall have all necessary powers to cooperate as herein provided in the administration of the provisions of this Act: *Provided*, That in any State having a child-welfare or child-hygiene division in its State agency of health, the said State agency of health shall administer the provisions of this Act through such divisions. If the legislature of any State has not made provision for accepting the provisions of this Act the governor of such State may in so far as he is authorized to do so by the laws of such State accept the provisions of this Act and designate or create a State agency to cooperate with the Children's Bureau until six months after the adjournment of the first regular session of the legislature in such State following the passage of this Act.

SEC. 5. So much, not to exceed 5 per centum, of the additional appropriations authorized for any fiscal year under section 2 of this Act, as the Children's Bureau may estimate to be necessary for administering the provisions of this Act, as herein provided, shall be deducted for that purpose, to be available until expended.

SEC. 6. Out of the amounts authorized under section 5 of this Act the Children's Bureau is authorized to employ such assistants, clerks, and other persons in the District of Columbia and elsewhere, to be taken from the eligible lists of the Civil Service Commission, and to purchase such supplies, material, equipment, office fixtures, and apparatus, and to incur such travel and other expense as it may deem necessary for carrying out the purposes of this Act.

SEC. 7. Within sixty days after any appropriation authorized by this Act has been made, the Children's Bureau shall make the apportionment herein provided for and shall certify to the Secretary of the Treasury the amount estimated by the bureau to be necessary for administering the provisions of this Act, and shall certify to the Secretary of the Treasury and to the treasurers of the various States the amount which has been apportioned to each State for the fiscal year for which such appropriation has been made.

SEC. 8. Any State desiring to receive the benefits of this Act shall, by its agency described in section 4, submit to the Children's Bureau detailed plans for carrying out the provisions of this Act within such State, which plans shall be subject to the approval of the board: *Provided*, That the plans of the States under this Act shall provide that no official, or agent, or representative in carrying out the provisions of this Act shall enter any home or take charge of any child over the objection of the parents, or either of them, or the person standing in loco parentis or having custody of such child. If these plans shall be in conformity with the provisions of this Act and reasonably appropriate and adequate to carry out its purposes they shall be approved by the board and due notice of such approval shall be sent to the State agency by the chief of the Children's Bureau.

SEC. 9. No official, agent, or representative of the Children's Bureau shall by virtue of this Act have any right to enter any home over the objection of the owner thereof, or to take charge of any child over the objection of the parents, or either of them, or of the person standing in loco parentis or having custody of such child. Nothing in this Act shall be construed as limiting the power of a parent or guardian or person standing in loco parentis to determine what treatment or correction shall be provided for a child or the agency or agencies to be employed for such purpose.

SEC. 10. Within sixty days after any appropriation authorized by this Act has been made, and as often thereafter while such appropriation remains unexpended as changed conditions may warrant, the Children's Bureau shall ascertain the amounts that have been appropriated by the legislatures of the several States accepting the provisions of this Act and shall certify to the Secretary of the Treasury the amount to which each State is entitled under the provisions of this Act. Such certificate shall state (1) that the State has, through its legislative authority, accepted the provisions of this Act and designated or authorized the creation of an agency to cooperate with the Children's Bureau, or that the State has otherwise accepted this Act, as provided in section 4 hereof; (2) the fact that the proper agency of the State has submitted to the Children's Bureau detailed plans for carrying out the provisions of this Act, and that such plans have been approved by the board; (3) the amount, if any, that has been appropriated by the legislature of the State for the maintenance of the services and facilities of this Act, as provided in section 2 hereof; and (4) the amount to which the State is entitled under the provisions of this Act. Such certificate, when in conformity with the provisions hereof, shall, until revoked as provided in section 12 hereof, be sufficient authority to the Secretary of the Treasury to make payment to the State in accordance therewith.

SEC. 11. Each State agency cooperating with the Children's Bureau under this Act shall make such reports concerning its operations and expenditures as shall be prescribed or requested by the bureau. The Children's Bureau may, with the approval of the board, and shall, upon request of a majority of the board, withhold any further certificate provided for in section 10 hereof whenever it shall be determined as to any State that the agency thereof has not properly expended the money paid to it or the moneys herein required to be appropriated by such State for the purposes and in accordance with the

provisions of this Act. Such certificate may be withheld until such time or upon such conditions as the Children's Bureau, with the approval of the board, may determine; when so withheld the State agency may appeal to the President of the United States who may either affirm or reverse the action of the Bureau with such directions as he shall consider proper: *Provided*, That before any such certificate shall be withheld from any State, the chairman of the board shall give notice in writing to the authority designated to represent the State, stating specifically wherein said State has failed to comply with the provisions of this Act.

SEC. 12. No portion of any moneys apportioned under this Act for the benefit of the States shall be applied, directly or indirectly, to the purchase, erection, preservation, or repair of any building or buildings or equipment, or for the purchase or rental of any buildings or lands, nor shall any such moneys or moneys required to be appropriated by any State for the purposes and in accordance with the provisions of this Act be used for the payment of any maternity or infancy pension, stipend, or gratuity.

SEC. 13. The Children's Bureau shall perform the duties assigned to it by this Act under the supervision of the Secretary of Labor, and he shall include in his annual report to Congress a full account of the administration of this Act and expenditures of the moneys herein authorized.

SEC. 14. This Act shall be construed as intending to secure to the various States control of the administration of this Act within their respective States, subject only to the provisions and purposes of this Act.

Approved, November 23, 1921.

APPENDIX B.—CONSTITUTIONALITY OF THE ACT.

A test case by Massachusetts.

In 1922 when a bill for the acceptance of the maternity and infancy act was pending before the legislature of Massachusetts the question of Congress's power to enact legislation of this sort was raised. The legislature thereupon requested the opinion of the attorney general of the Commonwealth as to whether in his opinion the act was or was not constitutional. The attorney general gave it as his opinion that the act was "an attempted exercise of power over the subject of maternity and infancy, and thus an incursion into the field of the local police power, reserved to the States by the tenth amendment" to the Constitution. He further advised that as the money derived from Federal taxation was in his opinion to be illegally divided among States accepting the act the property rights of the citizens of Massachusetts who were Federal taxpayers were involved, and the Commonwealth could find a basis for a suit for the protection of the property rights and welfare of its citizens, as well as the defense of its rights as a sovereign State. The attorney general recommended a proceeding in equity against the officials of the Federal Government who were carrying out its provisions.[1]

At the same time the legislature was informed by the supervisor of administration that Massachusetts was accepting aid under 22 different appropriation acts. The State department of agriculture was receiving Federal funds which were classified under the following heads: White-pine rust, European corn borer, marketing work, soil survey; the State department of conservation under the following: Suppression of gypsy and brown-tail moths, prevention of forest fires; the State department of education for vocational education and vocational rehabilitation education; the State Agricultural College under the Morrill Fund and under the Adams, Nelson, and Smith-Lever Acts; the State nautical school, the division of highways and the State militia also accepted Federal subsidies. It was generally recognized that this measure merely extended the well-established principle of Federal and State cooperation, the benefits of which Massachusetts had accepted in the past and was still continuing to accept, to a new field—the protection of maternity and infancy.

A complaint was accordingly filed in behalf of the Commonwealth of Massachusetts in October, 1922 (Commonwealth of Massachusetts *v.* Andrew W. Mellon, Secretary of the Treasury; Grace Abbott, Chief of the Children's Bureau of the Department of Labor; Hugh S. Cumming, Surgeon General of the Public Health Service; John J. Tigert, Commissioner of Education) in which the alleged unconstitutional acts of Congress were recited, and an injunction was sought restraining the Federal officers charged with the enforcement of the maternity and infancy act from carrying out its provisions.

A taxpayer's suit.

A taxpayer's suit was started (Frothingham *v.* Andrew W. Mellon, Secretary of the Treasury, et al.) in the Supreme Court of the District of Columbia, in December, 1922, apparently because those interested in having the act held unconstitutional realized the weakness of the Massachusetts case. The second complaint contained substantially the same allegations as the Massachusetts case, except that where the latter alleged that "its rights and powers as a sovereign State and the rights of its citizens have been invaded and usurped" by the act, the Frothingham complaint alleged that the act made "appropriations unauthorized by the Constitution of the United States, resulting in the taking of her (plaintiff's) property without due process of law, in violation of the fifth amendment."

The Supreme Court of the District of Columbia dismissed the plaintiff's bill of complaint in this case, and later the Court of Appeals of the District of Columbia affirmed its decree. An appeal was then taken to the United States Supreme Court and it was argued, with the Massachusetts case, in May, 1923. In addition to the brief submitted by the Solicitor General, other briefs in defense of the act were filed on behalf of 10 States—Arkansas, Arizona,

[1] Massachusetts House Document No. 1660, 1922.

Colorado, Delaware, Indiana, Kentucky, Minnesota, Oregon, Pennsylvania, and Virginia—and the Association of Land-Grant Colleges, as amici curiae.

These cases raised two questions: (1) As to whether a justiciable question over which the court had jurisdiction was presented in either or both cases, and (2) as to whether Congress exceeded its authority in passing the maternity and infancy act.

Questions as to jurisdiction are often "merely technical," but here, broad questions of public policy and the interrelations of the various departments of the Government were involved, so that the decision of the court on this point would either support or undermine the basis of the plaintiff's argument that the act was unconstitutional.

There was no dissent to the decision rendered by the Supreme Court on June 4, 1923, that both these cases must be disposed of for want of jurisdiction.[2] Mr. Justice Sutherland, in delivering the opinion of the court, said:

"What, then, is the nature of the right of the State here asserted and how is it affected by this statute? Reduced to its simplest terms, it is alleged that the statute constitutes an attempt to legislate outside the powers granted to Congress by the Constitution and within the field of local powers exclusively reserved to the States. Nothing is added to the force or effect of this assertion by the further incidental allegations that the ulterior purpose of Congress thereby was to induce the States to yield a portion of their sovereign rights; that the burden of the appropriations falls unequally upon the several States; and that there is imposed upon the States an illegal and unconstitutional option either to yield to the Federal Government a part of their reserved rights or lose their share of the moneys appropriated. But what burden is imposed upon the States, unequally or otherwise? Certainly there is none, unless it be the burden of taxation, and that falls upon their inhabitants, who are within the taxing power of Congress as well as that of the States where they reside. Nor does the statute require the States to do or to yield anything. If Congress enacted it with the ulterior purpose of tempting them to yield, that purpose may be effectively frustrated by the simple expedient of not yielding.

"In the last analysis, the complaint of the plaintiff State is brought to the naked contention that Congress has usurped the reserved powers of the several States by the mere enactment of the statute, though nothing has been done and nothing is to be done without their consent; and it is plain that that question, as it is thus presented, is political and not judicial in character, and therefore is not a matter which admits of the exercise of the judicial power."

As to the taxpayer's suit, the court called attention to the fact that—

"The right of a taxpayer to enjoin the execution of a Federal appropriation act, on the ground that it is invalid and will result in taxation for illegal purposes, has never been passed upon by this court. * * * The interest of a taxpayer of a municipality in the application of its moneys is direct and immediate and the remedy by injunction to prevent their misuse is not inappropriate. * * * The reasons which support the extension of the equitable remedy to a single taxpayer in such cases are based upon the peculiar relation of the corporate taxpayer to the corporation, which is not without some resemblance to that subsisting between stockholder and private corporation. But the relation of a taxpayer of the United States to the Federal Government is very different. His interest in the moneys of the Treasury—partly realized from taxation and partly from other sources—is shared with millions of others; is comparatively minute and indeterminable; and the effect upon future taxation, of any payment out of the funds, is so remote, fluctuating, and uncertain, that no basis is afforded for an appeal to the preventive powers of a court of equity.

"The administration of any statute likely to produce additional taxation to be imposed upon a vast number of taxpayers, the extent of whose several liability is indefinite and constantly changing, is essentially a matter of public and not of individual concern. If one taxpayer may champion and litigate such a cause, then every other taxpayer may do the same, not only in respect of the statute here under review but also in respect of every other appropriation act and statute whose administration requires the outlay of public money, and whose validity may be questioned."

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[2] 43 Supreme Court Reporter, 597.

The court further called attention to the fact that:

"It is of much significance that no precedent sustaining the right to maintain suits like this has been called to our attention, although since the formation of the Government, as an examination of the acts of Congress will disclose, a large number of statutes appropriating or involving the expenditure of moneys for non-Federal purposes have been enacted and carried into effect."

Thus, the merits of the question of the constitutionality of the act were not discussed, because the court found that a justiciable question was not presented. Congress acted in the belief that the welfare of mothers and babies is a matter of national as well as local interest and that legislation making possible cooperation in reducing the death and morbidity rates is constitutional. The Supreme Court has indicated that on this matter the opinion of Congress is final.

APPENDIX C.—RULINGS OF THE COMPTROLLER GENERAL OF THE TREASURY.

The rulings of the Comptroller General of the United States Treasury in connection with the appropriations for carrying out the maternity and infancy act have been in substance as follows:

1. That so much of the 1922 appropriation as was paid to a State and as remained unexpended on June 30, 1922, was to be available for expenditure within the State until the close of June 30, 1923. (May 12, 1922.)

2. That so much of the 1922 appropriation as was apportioned to a State and as remained unpaid to such State at the close of June 30, 1922, was to be available for payment to the State at any time during the fiscal year 1923 and for expenditure until the close of June 30, 1923.[1] (May 12, 1922.)

3. That any interest accruing while the moneys are held by the State inures to the benefit of the United States as owner of the funds and not to the States as trustees, and should be accounted for and paid into the United States Treasury accordingly. The law does not contemplate, however, that the money shall be held by the States and bear interest, but shall be promptly applied to the purpose for which furnished and the amounts should not be furnished in amounts necessarily resulting in large sums being held and thus bearing interest. (May 12, 1922.)

4. That in case the State fails to appropriate an amount specifically equal to the amount of the allotment authorized by the Federal appropriation, moneys applied to the same purpose through other State appropriations may not be considered as making the appropriated funds of the State equal to the allotments authorized by the Federal appropriation, unless it is established that the fact that the other appropriation was available for the "services and facilities provided for in this Act" controlled the State legislature in making its specific appropriation, in which case there would be justification for considering these moneys in determining that the amount appropriated by the State is equal to the Federal allotment. (June 23, 1923.)

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[1] This same ruling applied to appropriations for succeeding fiscal years—that is, so much of an appropriation for any Federal fiscal year as was apportioned to a State was available for payment to and expenditure in such State for a two-year period, that period beginning July 1 of the fiscal year for which the appropriation was made, and ending June 30 of the succeeding fiscal year.

APPENDIX D.—INSTRUCTIONS FOR ACCOUNTING UNDER THE ACT.

Accounts and vouchers.

Accounts and vouchers for both Federal and State funds used in promoting the welfare and hygiene of maternity and infancy under the Sheppard-Towner Act should be regularly kept at the State agency responsible for the local administration of the act so that if examined at any time by a representative of the Children's Bureau it will be possible to ascertain the exact expenditures made. If the original accounts and vouchers are kept in the office of the State treasurer and the responsible State agency keeps only duplicate vouchers, these duplicates should bear evidence of their payment by reference to the warrant or otherwise. Expenditures from both Federal and State funds which are included in the account of an appropriation for any Federal fiscal year should be confined to those actually made in the maintenance of the services and facilities provided for in the Sheppard-Towner Act during the two-year period for which the appropriation is available. Separate accounts for expenditures of the Federal fund and the State fund used in matching the Federal fund should be kept in accordance with the provisions of the financial schedules prescribed by the Children's Bureau and should be supported by vouchers approved by the director of the State agency. If the State appropriation for the hygiene of maternity and infancy is larger than the amount used to match the Federal allotment, a separate account of so much of the State's appropriation as is used to offset the Federal fund should be kept.

The classification of expenditures in accordance with the headings prescribed by the Children's Bureau should be indicated on all vouchers or accompanying jackets. Every voucher should further indicate the fund, whether Federal or State, from which the expenditure is made.

There should be a pay roll or an individual voucher which should indicate the period for which the salary charge is made, the annual rate of salary, general description of duties (grade or title), and, if paid by cash, should contain the personal signature of each individual and the indorsement of the director of the State agency. Separate pay rolls for salaries under the Sheppard-Towner Act should be kept.

Vouchers for travel should give the purpose and dates for each trip and show an itemized account of all railroad and boat fares, livery, bus, and street car expenses, payments for subsistence, and miscellaneous items. The voucher should contain the personal signature of the individual paid and the indorsement of the director of the responsible State agency. There should be vouchers to show the purchase of mileage books and subvouchers to show how and when the mileage was used. Expenses for supplies and other material should not be included in travel accounts.

There should be an itemized account of all supplies and miscellaneous articles purchased and the vouchers should indicate the date when the goods were received and the date of payment, and should bear the signature of the payee and indorsement of the director.

Classification of expenditures.

The first scheme for classification of accounts by items of expense provided for eight ledger headings as follows:

1. Salaries—Entire staff, both office and field, professional and clerical.
2. Printing—Publications, etc.
3. Supplies—Office and scientific supplies.
4. Furniture—Typewriters, office desks, tables, and so forth.
5. Express and freight—Cartage, drayage, and so forth.
6. Telegraph and telephone.
7. Traveling expenses—In connection with promoting the welfare and hygiene of maternity and infancy only—running expenses of automobile, purchase of automobile, railroad fare, subsistence while in the field, and so forth.
8. Miscellaneous—To be itemized in detail.

U. S. DEPARTMENT OF LABOR
JAMES J. DAVIS, Secretary
CHILDREN'S BUREAU
GRACE ABBOTT, Chief

NUTRITION WORK FOR PRESCHOOL CHILDREN

By
AGNES K. HANNA

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LETTER OF TRANSMITTAL.

U. S. Department of Labor,
Children's Bureau,
Washington, January 10, 1924.

Sir: There is transmitted herewith a report on Nutrition Work for Preschool Children, by Agnes K. Hanna.

The report is based upon a field study of the method of conducting nutrition work for preschool children in nine urban and three rural communities in which some definite organized work in this field is being done.

Respectfully submitted.

Grace Abbott, *Chief.*

Hon. James J. Davis,
Secretary of Labor.

NUTRITION WORK FOR PRESCHOOL CHILDREN.

INTRODUCTION.

This report is an analysis of the findings of a field study made by the Children's Bureau during January, February, and March, 1923, of the methods of conducting nutrition work for preschool children in nine middle-western and eastern cities (Kansas City, St. Louis, Chicago, Detroit, Cleveland, Utica, Boston, New York, Philadelphia) and in three rural districts (Macon County, Ala., Mississippi County, Ark., Wayne County, Mich.). With the exception of St. Louis, included in a preliminary study, the cities visited were selected because in each of them some definite and organized work for preschool children had been undertaken. The rural districts were selected because the work in each represented a different type of nutrition teaching, although in all of them the work for preschool children was the outgrowth of the health teaching in the schools.

NUTRITION WORK IN THE CITIES.

ORGANIZATIONS CONDUCTING NUTRITION WORK.

The agencies undertaking nutrition work in the cities visited represented a wide range of public and private activity in different types of organizations. In some cities of the group well-child conferences and nutrition clinics in hospitals and dispensaries, health centers of private organizations and of the city board of health, settlements, nursery schools, and day nurseries were all contributing to the nutrition work for preschool children, whereas in five of the cities practically all the work for preschool children was being done by one or two organizations. The work of 30 organizations was studied, and visits were made to 33 centers or clinics and to 3 nursery schools; in addition, home visits were made with 6 nutrition workers.

Nutrition work as interpreted by organizations interested in the care of preschool children is any systematic and concrete instruction given under medical supervision to a child or to its parents that has as its purpose the correction of all the conditions that have interfered with the normal growth and development of the child. While practically all the instruction as to food and health habits given in a health center by physicians and nurses has a direct bearing upon the nutrition of the children, it is only when this instruction is given systematically and in relation to bringing the child up to a standard of nutrition below which he has fallen that it is technically called nutrition work.

The great variety of activities designated as nutrition work by the different agencies and the varying standards of care made it

impossible to attempt a statistical study of the extent and adequacy of the nutrition work in each city. Although some of the agencies visited had worked out the technique of nutrition work through several years of experience many had but recently started such work, and a few of them frankly called the methods used experimental. Therefore it has seemed desirable to present in this report a composite picture of the most effective work that was being done rather than to discuss the experience and standards of each individual city or organization.

NUTRITION WORK IN RELATION TO GENERAL HEALTH SUPERVISION OF PRESCHOOL CHILDREN.

From the very beginning of this survey it was evident that it would be impossible to study the nutrition work of any of the organizations except in relation to the problem of the general health supervision of all the preschool children being cared for by the organization, because of the different policies and interpretations of the needs of preschool children, the varying kinds and standards of care, and the different types of workers who gave instruction to the child and its mother in the centers and in the home.

General plan of work of organizations studied.

The organizations caring for preschool children differed in general policy in the following respects: (1) Whether the organization had any plans for providing medical supervision and care for all the children within the district under its administration, or whether only those children were being cared for who were brought voluntarily by their mothers to the center or who were found by nutrition workers and nurses while visiting in the homes; (2) whether the organization undertook to provide both medical examinations and corrective care under medical supervision in corrective clinics and in the home, or whether it merely undertook to provide through child-welfare conferences for medical examinations without attempting intensive follow-up care. The following tabular statement shows the extent to which each of these policies dominated the work in 25 agencies that were caring for preschool children in the 9 cities. These agencies included 21 private organizations and the division of child hygiene of the board of health in 4 of the cities.

Policy of agency.	Number of agencies.	Approximate number of children cared for by each agency annually.
1. To provide, on a city-wide plan, for periodic medical examination but not for corrective care	1	[1] 16,000
2. To provide medical supervision and corrective or follow-up care for all children within a definite district	4	200–1,200
3. To provide medical supervision and corrective care for children brought voluntarily to centers throughout the city	8	1,300–5,000
4. To provide, in a limited district, medical supervision and corrective care for children brought voluntarily to the centers	12	20–400

[1] Including infants.

Although the above outline presents only in a general way the extent of care given preschool children in these nine cities it indicates that in the majority of agencies concerned with the care of preschool children the children attending centers, clinics, and classes are those who are brought in for care by their parents. The effectiveness of this plan in any attempt to provide adequate care for all the preschool children of a community is in direct proportion to the number of health centers, the size of the staff available for follow-up work, and the extent to which the parents in the community are educated in regard to the necessity for periodic examinations and corrective care. In a large number of the centers visited it was evident that practically all the children had been brought in because they needed some definite care, while in other centers the proportion of normal healthy children brought in for general medical supervision was much higher.

Any agency undertaking to provide health supervision for all the children in a district or a city must make a house-to-house survey at definite intervals in order to keep in touch with every child in the changing population of the district and to educate the parents as to the value of this supervision; it must also provide centers, and a medical staff of sufficient size to insure periodic examinations of all the children. If, in addition, it attempts to give adequate corrective or follow-up care for every child it must have a field staff extensive enough to do this work. Four agencies attempting to carry out this comprehensive plan determined, in each instance, the size of the district to be supervised by the number of field nurses and nutrition workers on their staffs. Three districts had one nurse to about 1,800 or 2,000 inhabitants; in the fourth, the size of the district was based on a city-districting unit rather than on a population unit. The one agency following a city-wide plan for physical supervision of all preschool children gave physical examinations once a year to a large majority of these children and did a limited amount of follow-up work, but no actual corrective work, for children having physical defects.

Although it seemed of interest to include in the preceding tabular statement the approximate number of children cared for by the four types of agencies the real significance of such a statement can of course be determined only when the quality and amount of care given are known.

The problem of maintaining attendance in health centers.

The records of the health centers show wide variations in their supervision of the children during their preschool life. Frequently the child has entered the clinic for the first time at the age of 2, 3, 4, or 5 years; in a few instances he has a fairly complete record of weekly or monthly attendance during the first year of his life or slightly longer, with occasional and irregular attendance at intervals of three to six months or one to two years throughout the preschool years. Most centers have a large number of records of children who have had fairly continuous supervision as infants but who either have never returned to the center as preschool children or have been brought in only once or twice for medical advice. Many children whose physical examinations show that they are in need of careful medical supervision and corrective care have been discharged

because of their failure to return to the clinic despite the fact that visits had been made by the nurse, whereas others less in need of care are returning at regular intervals.

The experience of most physicians and nurses in health centers has been that, while it is not difficult to persuade a mother to return to the center at regular intervals for supervision of the health and care of her baby, it is much more difficult to secure the same response and cooperation in the care of her older children. There are several reasons for this. These children are gradually outgrowing the period when their food and their activities differ from those of the older members of the family, and as their expression of feelings and sensations can be more easily understood than the infant's the mother feels more confident of her own ability to judge of their need of medical care. In a large family, also, household cares and the more insistent needs of the new baby subordinate the problems of the older children. The greater difficulty of controlling and managing the preschool child is another element influencing attendance at clinics and conferences.

Although these and other conditions make it difficult to maintain the attendance of preschool children at a center, nevertheless the effectiveness of any center is in direct proportion to its success in the following types of work:

1. Educating the parents of the community as to the need of periodic medical examinations of their preschool children and stimulating the parents to bring their children to the center.
2. Teaching the parents to understand the meaning of the physical condition of their children and the necessity of correcting physical defects.
3. Providing instruction in the center that will hold the interest of the mother and the child and maintain their cooperation in correcting poor food and health habits.

The amount of effort that is necessary, the type of appeal or publicity, and the kinds of workers needed in a center to "put over" this instruction in any community will depend in a large measure upon the character of the neighborhood in which the center is located. Inability to understand English, limited understanding, prejudices, national or racial customs or attitude of mind, all add difficulties to the problem. That any of these conditions are insuperable has been disproved by the experience of different centers—practically all parents will respond, to the limits of their ability, to a popular or persistent appeal to their interest in their children.

How far an agency should devote its energy and its funds to each of the three types of instruction will depend upon its general policy. Adequate care of a limited number of children, and the slow but sure growth among the families of the community of a more intelligent attitude toward child care that will lead eventually to the provision of adequate care for all children, is the ideal of most public-health workers, rather than the creation of a popular interest at various periods that is not sustained by a constructive after-care plan. The evidence that a center or an organization is progressing under the former plan is a steady growth in the number of preschool children being cared for in the center and in the number of

children brought in for general medical supervision as well as for corrective care. Equally valuable evidence of progress in an organization devoting its energy to popular education is an increased demand for centers for corrective and follow-up care for children and willingness of the community to support such centers.

Methods used by organizations to attract mothers to centers.—In most of the centers visited no special effort was being made to stimulate the attendance of preschool children who had not visited the center before, since the organization usually was not equipped to care for more new cases than would come to the center normally as a result of effective work in the district. If the work in a center must be limited because of a small staff, it is extremely difficult to maintain the best proportion between the amount of effort that should be put on corrective work for a small number of children and that spent on the general supervision of a larger number of more nearly normal children. The center should be a preventive, as well as a corrective, agency; and it is as important for it to supervise the health of the normal child and to prevent malnutrition and faulty habits as to correct these after they have developed.

An important part of the work of agencies that undertake to care for all the preschool children in a definite district is to make sure that all the children come to the center. Personal interviews with the mothers in a house-to-house survey are the means usually employed for doing this. The four organizations caring for a certain small district have this canvass made by the nurse or nutrition worker who is responsible for each part of the district, or by special workers on the staff. Several advantages are to be gained from making the canvass of her own district part of the work of each nurse. From the first contact with the mother the same person will have charge of the child in clinics and in home visits; the experience and training of a nurse should make her most effective in persuading the mother that the child needs medical care; the interest and work of a nurse are understood and she is an accepted authority in the community. In a center in an Italian district it was found that the most effective person to stimulate mothers to bring their children to the center was an Italian social-service worker. This worker's lack of nursing training was completely offset by her greater knowledge of the point of view of the Italian mothers and her ability to make her points clear to them. Furthermore, her service as interpreter in the center had given her fairly extensive clinical experience in the needs of the children.

That specially instructed volunteer workers can be used with excellent results to stimulate mothers to bring their children to a center for examination was proved by the experience of the one agency providing child-health conferences for an entire city. In this instance the attendance at the centers of 95 per cent of all the children found in the 1922 canvass [1] was attributed largely to the individual efforts of the volunteer workers, although their work was supplemented by a general publicity campaign.

Without undertaking a house-to-house canvass it is possible to reach most of the parents of a community through clubs, churches,

[1] Annual Report for 1922. Children's Bureau, Kansas City, Mo.

and other organizations of men and women, and through the children in the schools; and all of these methods should be used in any general publicity campaign.[2] In all of the rural communities visited the schools were the center of the health activities, and as a result they were the main agencies for reaching the parents. In the cities, although there was evidence of some cooperation between individual teachers and principals and the workers in a center little attempt was made to use the schools systematically as a means of reaching parents. One board of health has undertaken to give examinations each spring, in a few schools in the locality, to preschool children who expect to enter school in the fall. This work is more closely related to school problems than to the problems of agencies working for preschool children.

Methods of holding interest of mothers.—The center that does the most effective work for preschool children is one in which all the members of the staff—physicians, nurses, nutrition workers, and volunteers—realize that their problem is primarily an educational one and work steadily to improve their teaching technique. There was wide divergence in the opinions of the physicians in the centers visited as to the limits of their activity. Some of them undertook only to diagnose the condition of the child and to give general advice to the mother and the nurse or nutrition worker, and others gave a large part, if not all, of the individualized instruction which the mother received. The value of having the physician spend time to secure the cooperation of both the mother and the child in his plan for the child's care should be more generally recognized. The establishment of special conferences and clinics for preschool children under the medical supervision of men or women especially interested in their problems is of great assistance in securing this result.[3] This plan was used in about one-half of the agencies visited. Some very effective teaching was being done in different organizations by both nurses and nutrition workers, but there were many evidences of poor teaching methods used by both types of workers and of failure to recognize the fundamental educational problems in their work. The use by one center of the name "health teacher" for the young woman doing nutrition work has much to commend it, as it emphasizes the educational character of such work.

After children have been brought to a center for their first physical examination their continued attendance at clinics and conferences is dependent upon the quality of the advice and instruction given in the center and its adaptation to the problems of each individual mother so that she sees the value of the effort and time that she expends in clinic attendance and in carrying out the instructions of physician, nurse, and nutrition worker.

Many of the abnormalities in physical development and in reactions of the preschool child which to a trained observer indicate a definite physical or mental condition are accepted by the family as individual habits or as personal or family peculiarities. As a result, it is most difficult to persuade parents to undertake systematic

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[2] How to Conduct a Children's Health Conference, by Frances Sage Bradley, M. D. U. S. Children's Bureau Publication No. 23. Washington, 1917.

[3] Curtis, Robert D.: "Standards and methods for health work among children of preschool age." Transactions of the Eleventh Annual Meeting of the American Child Hygiene Association, 1920.

correction of these defects. Furthermore, the advice and instruction given to a mother for the care of her preschool child usually either involves some surgical correction of defects or else requires some modification or change in the habits and activities of the child or of the family. Inadequate food and bad food habits, unhygienic habits of living, lack of sleep, and lack of parental control are all factors that may cause undernourishment or the development of other defects; yet to correct any of these may require the overcoming of prejudices, ignorance of sanitation, hygiene, and food values, and, in many cases, indifference on the part of other members of the family, especially the mother.

Unless the instruction given in the center is directly concerned with the particular needs of the individual family and is of a kind to stimulate the interest and effort of both the child and the mother the change in the child's condition from week to week is usually so slight that it is not a sufficient incentive for continued effort by the mother. Is it reasonable to expect a mother to return to a center for advice when she knows that she has not carried out the instructions previously given because they seemed difficult or impractical and only vaguely related to the child's condition, which she looks upon as "nothing to worry about, anyway"?

In addition to the instruction adapted to the needs of her own child which is given every mother, 11 out of the 33 health centers visited undertook a general educational program to help maintain the interest of the mothers and children coming to the center or to demonstrate to the mothers standards of child care. Such a program may include clubs and classes for mothers or for older children in the families, motion-picture talks on health topics and other entertainments, and demonstrations and illustrated talks on child care, health habits, and food selection and preparation, given as part of the daily activity of the center. In one center this program was extended to include a day nursery for infants and a nursery school for preschool children, which were used to demonstrate to the mothers the effect of adequate care for children not receiving such care in their own homes.

One of the greatest losses in effort observed in health centers is the failure to provide interesting educational material as well as medical advice in the conferences and clinics. Although it often takes great effort and much time on the part of the nurse or nutrition worker to persuade a mother to bring her child to a center, nevertheless when she does arrive no attempt is made to use her time while there in the most profitable way. In all the centers where an effective general program was planned as part of the regular work of a clinic it was being carried out by a nutrition worker or nurse who had no other responsibilities in the clinic.

Standards of care for preschool children.

In considering the standards of care given to preschool children in health centers it is necessary to distinguish between the type and amount of care given to the normal healthy child or to the one under general medical supervision and that given to the child in need of corrective work. These are not necessarily groups of special children, for every child may sometimes fail to measure up to the normal

standard and consequently intensive care may be given him during a certain period, although at other times he receives only general supervision.

Children needing general supervision are brought to the center for a thorough physical examination and advice from the physician. Unfortunately the value of medical supervision for the normal child is not understood by most parents, and the actual number of normal children returning systematically to health centers for physical examinations is extremely small; in many centers there were practically no such children. In most cases the children returning regularly for supervision were those border-line cases that can be kept up to a minimum standard of health only by constant care. In all the centers the intervals at which children should return for examinations were determined largely by the children's needs, but the general policy of a physician or an organization was also a factor in the decision. The period most usually specified by the physician was three months, although in a few cases it was advised that the child be brought back in six months.

The method of keeping in contact with these children needing periodic supervision varied greatly in different centers. In some they were given the same monthly home supervision by the nurse or nutrition worker as was given to children in need of corrective care. In five of the dispensaries and health centers visited the date for the return visit was noted on the child's record and the mother was notified to return on this date by a postal or by a visit from the nurse; in event of the mother's not responding to the postal it was followed up by a call from a nurse or social-service worker. If an agency is going to attempt to give general medical supervision throughout the preschool years for as large a proportion as possible of the children in its district, it is essential that the amount of effort and time given by the staff to secure the return of the children to the center be reduced to the minimum. The very high percentage of returns shown in the records of two agencies, which was secured by the use of a return-visit file and notification by postals, indicates that this method should probably be used more generally in health centers.

The willingness of a mother to return periodically to a center is influenced by her estimate of the value of the medical advice given and, as was noted before, her interest in the information that she acquires. The physical examinations at the different centers were very similar, but the medical advice given varied widely. In five centers the prevention of diphtheria was particularly emphasized and treatment at a dispensary was arranged for. The advice and information given in different centers in regard to the food and health habits of these children varied from the mere distribution of general printed directions to individual and detailed advice by a nutrition worker.

Children needing corrective care.—A large majority of the children coming to health centers are in need of corrective care. The reason for this is evident, since one of the most marked characteristics of the preschool period is a gradual increase in the number of children having defects and in the number of defects per child in each age period.[4] From the standpoint of care these children may be divided into two

[4] Physical Status of Preschool Children, Gary, Ind., by Anna E. Rude, M. D. U. S. Children's Bureau Publication No. 111. Washington, 1922.

groups: Those needing correction of physical defects or treatment for disease in a hospital, dispensary, or medical clinic; and those needing correction of habits and activities. As many of the defects needing medical correction are augmented by, or are the result of, inadequate food and unhygienic habits, many children need both of these types of corrective care.

Practically all of the centers adopted the same general policy in regard to children having physical defects. In all cases in which the family had a private physician the mother was referred to him for recommendations as to treatment; in those in which the family had no regular physician the physician at the center recommended a hospital or dispensary where the child could receive care.

The degree of responsibility assumed by the different health centers in securing the correction of physical defects varied considerably. It was influenced to a large extent by the type of community in which the centers were located, those situated among non-English-speaking groups taking, on the whole, more responsibility. Dental clinics were in the same buildings as those occupied by several of the centers visited, and consequently a large percentage of all the dental defects of the preschool children coming to these centers were corrected.

In a number of other centers the nurses or nutrition workers undertook to make appointments at some dental clinic for the children under their care, and often they personally took the children to the clinics. In a few centers the staff took no responsibility for dental care but constantly urged the parents to do this themselves. The removal of defective tonsils and adenoids was the type of corrective work which was most often recommended for preschool children and for which the staff of many centers assumed responsibility. Arrangements for hospital care were made for all children for whom the consent of the parents was secured, and in addition the nurse or nutrition worker made sure that the appointments were kept.

In all centers the children needing corrective medical attention were given continuous follow-up care in the homes until the defects were corrected, or as long as the parents needed instruction or would cooperate by coming for supervision to the center. A monthly visit was the minimum standard for such follow-up care. It is a very difficult problem to persuade parents to have defects corrected; and where the need for such correction is very great the nurse and the physician try to keep in contact with the parents at intervals of a week or so through clinic attendance and home visits.

There are several types of defects that may be overcome by change in the habits or the activities of the child. It is this type of corrective work that is primarily the problem of the staff of a health center. The largest group of children needing this care are the undernourished children, and in all of the 23 centers doing effective work with this group provision was made for their care in special nutrition clinics or by individual instruction from a nutrition worker in conferences and in the homes. Poor posture and bad habits are other defects for which special corrective work may be done in a center. Posture classes or clinics for preschool children were found in three centers. Only one of the organizations visited had established habit clinics for the correction of habits that are the result of wrong mental attitudes; individual instruction of the mother in all

such cases was included, however, as part of the work of the three nursery schools visited.

There are two points of view in regard to the standards of care that should be given to the children for whom corrective educational work was being done in health centers: (1) Intensive instruction should be given in a clinic and in the home at sufficiently close intervals to maintain the interest and cooperation of the parents and the child. This usually means weekly or semiweekly visits either in the center or in the home. This intensive care is maintained for a definite period (three to nine months) or until an acceptable standard of improvement is attained. Following this intensive instruction follow-up care is given at regular intervals. This type of work was being done in eight of the centers. (2) Instruction should be given to the mother for as long a time as she will cooperate in carrying out directions, each child being seen at least once a month. When the mother assists by coming to the center regularly the instruction is more intensive; also, in individual cases where there is definite need but inability on the part of the mother to come to the center, the nutrition worker should visit the home at more frequent intervals than once a month.

There is much difference in the policy of various organizations as to how frequently these children receiving regular instruction from the center should be examined by the physician. In most centers the physician expected to see them every time that they came to the center. The periods between their visits varied greatly, however, since in a few centers most of the instruction was given in a special clinic and the children were expected to return weekly or biweekly, whereas in other centers practically all of the instruction was given in the home and the children came to the center only at intervals of three to six months for medical examinations. Of three organizations visited which had excellent clinic attendance one required only a yearly examination by the physician, and the other two considered a six-month interval more satisfactory.

STANDARDS FOR SELECTING CHILDREN FOR NUTRITION CARE.

The standards for selecting the preschool children for whom nutrition work should be done varied in different agencies. In some centers the only children given this care were those who did not measure up to a weight to height standard, and in other centers any child showing evidence of malnutrition or of poor food habits was assigned to the nutrition worker for care. In several organizations no attempt was made to care for all the border-line nutrition cases because there were only one or two nutrition workers on the staff, so that only the most seriously undernourished children were included.

In very few centers was it possible to secure an accurate definition of the standards used in judging nutrition cases, as this varied with the point of view of each examining physician. In using weight to height as an index of undernourishment, some physicians used 7 per cent and others 10 per cent underweight as a standard; this may have been affected by slight differences in the tables of weights and heights used in different centers. More emphasis was usually placed upon the general condition of the child than upon his weight. The

wide variation in the percentages of preschool children who are under weight in the different age groups[5] may be one of the reasons why underweight is considered a minor factor in nutrition work for these children. Individual opinions of physicians as to conditions, other than weight, upon which standards of nutrition are based, also showed variability. Consequently it was impossible to secure comparable figures as to the extent of undernourishment among the children attending different centers.

Twenty of the organizations visited were doing some definite nutrition work for preschool children, and in 14 of these the nutrition worker was handling primarily nutrition cases. In 3 organizations the nutrition worker not only cared for the nutrition cases but took charge of the preschool clinics and did the home visiting for all preschool children. (In one organization this plan was soon to be replaced by more specialized nutrition work.)

There are both advantages and disadvantages in this plan. The main advantage is that any discussion of the food of preschool children must be related to advice about the family diet if it is to be at all effective, and this is a technical problem needing a specially trained person. That there is need for instruction in food as well as in health habits for many children who are not considered undernourished is borne out by two studies of the adequacy of the diets of preschool children. In one study 72 per cent of the children were found to have questionable or inadequate diets, though only 40 per cent of them were graded as "poor" or "very poor" in nutrition as judged by both weight and general condition.[6] The second study showed that 60.5 per cent had inadequate diets and 29.2 per cent had questionable diets, whereas only 9.7 per cent were undernourished on a basis of 10 per cent underweight for height.[7] The chief disadvantage in having a nutrition worker care for all preschool children is that few of the women doing this work have had sufficient training or clinical experience to recognize evidences of disease or to give advice as to nursing care, yet situations requiring such service are often met in home visiting.

METHODS OF CONDUCTING NUTRITION WORK.

Methods of conducting nutrition work for preschool children have been influenced by the difficulty of maintaining in clinics or classes meeting regularly a continuous attendance of all the preschool children needing this type of care, and also by the fact that the instruction of the mothers even more than of the children is necessary. Although it is most desirable—in fact, often essential—in any plan for the care of the preschool child to secure his cooperation it is not possible to secure it as fully as that of the older child.

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[5] Physical Status of Preschool Children, Gary, Ind., by Anna E. Rude, M. D. U. S. Children's Bureau Publication No. 111. Washington, 1922.

[6] The Nutrition and Care of Children in a Mountain County of Kentucky, by Lydia Roberts, pp. 29 and 8. U. S. Children's Bureau Publication No. 110. Washington, 1922.

[7] Children of Preschool Age in Gary, Ind. Part II, Diet of the Children, by Lydia Roberts, pp. 57 and 102. U. S. Children's Bureau Publication No. 122, Washington, 1923.

The nutrition class.

The class method [8] of conducting nutrition work, therefore, which has been used with a considerable degree of success for many groups of children of school age, has had but a limited use for preschool children. In only four of the centers visited was formal class work in nutrition undertaken. In one of these the class was held in an under-age kindergarten with full attendance of children but with only about one-fifth of the mothers; in another the class had dropped from 12 to 5 children; and in the third center the class had just been discontinued because it had taken so much effort on the part of the nurses to bring the children together each week. The class attendance in the fourth center was very irregular, averaging about 12 mothers each week out of a group of 60.

The particular value of the class method is the appeal to group and social interests and the development of a spirit of competition, all of which may be used to stimulate the effort of each individual in the class. Although there is some difference of opinion as to the value or necessity of competition as a means of stimulating children to work for improvement in health habits,[9] the value of group pressure and the advantage of hearing the varying experiences of the different members of the group are almost generally conceded.

Other group teaching.

The importance of group work is recognized by most nutrition workers, and group teaching in various forms was used in different centers. In many centers every effort is being made to get groups of mothers together in classes or clubs, meeting weekly or monthly, for general instruction about foods and about prenatal, infant, and child care. These efforts, however, have been only fairly successful, as the actual number of mothers coming to any center for regular class work is very small. Four of the centers visited have a definite plan of group instruction for every nutrition-clinic meeting. This usually consisted of demonstrations, talks, or cooking lessons, and it often included some discussion of the habits and activities of the individual children, as the mothers discussed their own experiences with the nutrition worker. This type of work does not necessitate regular attendance nor the use of the formal technique employed in a nutrition class.

Some very effective informal group teaching for the mothers who happened to come at the same time to the clinic was seen in four centers that had no definite group program. Although this method of securing exchange of ideas and experiences among small groups of mothers by discussing their problems together was used quite spontaneously by these four nutrition workers, its value was so evident that it should be used more generally in nutrition clinics.

All these methods of group teaching were arranged for the benefit of the mothers rather than to secure the cooperation or interest of the children. The one point where group pressure was of great assistance in this last respect was its influence in teaching the children

[8] Emerson, William R. P.: Nutrition and Growth in Children. D. Appleton & Co., New York, 1922.

[9] Health Education and the Nutrition Class: Report of the Bureau of Educational Experiments, p. 225. E. P. Dutton & Co., New York, 1921.

to like the foods that they should eat. The "party" served to the children at a food demonstration in four of the centers, the midmorning or midday lunch served in three nutrition clinics, and the meals served in all the nursery schools illustrate the value and the ease of teaching children to eat the right things, if they are made to feel that they are expected to take—and to like—everything served to them. Another type of group teaching planned to secure the interest and cooperation of the children was the telling of stories that emphasized health habits. This was seen in two centers: In one case the story-telling was done in connection with informal group work with the mothers, and in the second case it was given in a formal nutrition class.

Individual teaching.

The usual method of nutrition teaching found in health centers was individual instruction given to each mother, through which it is possible to go more deeply into the problem of each child than in group teaching, although it involves a loss in not creating a group attitude among the mothers coming to a center. Some individual teaching should always be done even with the most effective group work.

Without the benefit of the social interest of group work the nutrition worker must depend upon her individual appeal to the interest of the mother and the child. This is a question both of personality and of good teaching methods. In a few centers the nutrition worker made an earnest effort to interest and teach the children as well as the mother, providing small chairs and tables and a few easily cleaned toys, or giving out colored stars or pictures as a reward for their efforts.

The most marked difference in method in the centers doing individual work was the extent to which this teaching was done in the center or in the home. Although clinic attendance is influenced to a certain extent by the type of the group which the center serves, this is not the only factor, as is shown by the experience of various centers placed among quite similar population units. The most important factors are: The extent to which the community is educated to come to the clinics and the preference of the staff of the centers for the home or for a nutrition clinic as the place to give instruction.[10] The value and necessity of home visiting is not questioned by any nutrition worker. The difference in point of view is in regard to the amount of individual teaching that should be done in the center.

Although nutrition work is similar to other types of public-health teaching that may be done in the home, it has been developed to a large extent for the undernourished and underweight child, and it therefore offers a slightly different situation from that of general nursing instruction. In spite of differences of interpretation of the significance of weight to height as an index of malnutrition, practically all nutrition workers use the gain or loss of weight of the child to encourage the mother to continue or change her course of procedure in regard to his food, habits, or activities. It is therefore

[10] Nursing and Nursing Education in the United States, p. 50. Committee for the Study of Nursing Education. The Macmillan Co., New York, 1923.

necessary to weigh the child at fairly regular intervals if any intensive corrective care is to be given. The nutrition workers of two organizations were provided with portable scales, so that this important factor of their teaching could be included in home instruction. In all of the other centers the nutrition workers relied upon the attendance of the child at the center for a record of his weight, and as a result many nutrition workers were attempting to do home teaching without the benefit of definite knowledge of weight variations.

As a place for instruction both the center and the home may be most valuable. Certain types of instruction can be given as effectively in the center as in the home: others can be fully understood only when all the conditions that affect the situation can be seen and talked over. The experience of several centers has proved that some of the food instruction often given in the home can be given at much less cost and quite as adequately in the center. An effective teacher, for example, can make a cooking demonstration individually valuable to 10 or 12 mothers, whereas it would take many hours of her time to give the same demonstration in 10 or 12 homes. Furthermore, the attention of the mothers as evidenced by the questions asked in these centers was secured much more fully in the center demonstrations that were seen than in the home demonstrations. The mother in her home was usually distracted by the need of looking up supplies and cleaning dishes, the feeling of being hostess, and constant attention to the wants of the children.

FACTORS ENTERING INTO SUCCESS OF NUTRITION WORK.

The final measure of success in nutrition work is the extent to which faulty living habits have been overcome and more adequate habits substituted for them. In any habit-forming program results will be secured far more easily if stimulation and encouragement is given at fairly close intervals. The nutrition worker who can see the mothers and children under her care at weekly or at semiweekly intervals, especially in the beginning of her work with a family, has a great advantage over the worker who sees her families at monthly intervals. There is some difference of opinion among nutrition workers as to the length of the period during which this intensive care should be given or as to the standard of success that should be attained in each case before such work is reduced and more general supervision given instead. The shortest period for intensive work in any of the centers was three months; in some it was from six to nine months.

The number of children cared for at one time by a nutrition worker will necessarily depend upon the amount of care given each child, and also upon the extent to which this instruction is given in the home or in the center. Each nutrition worker, in centers where intensive work is being done, usually has under her care from 40 to 70 children, the number that she cares for each year depending upon the amount of care given each child. Where nutrition work is less intensive she may be responsible for 150 to 250 children at a time.

ACTIVITIES OF NUTRITION WORKERS.

Weighing and measuring.

As has been suggested, the child's weight may be used in nutrition work in two ways—as an index of his condition and as a means of interpreting to the mother the adequacy of her care. This difference in the use of the record of a child's weight is partly the cause of the wide variation in the technique of weight taking found in different centers. In some the children were always stripped for weighing; in others their weight was sometimes taken with their clothes on and at other times without. The most satisfactory plan was the following, used by one organization: When a physical examination was being given the child was weighed stripped and again in all his indoor clothes with the exception of shoes and sweaters; when the child returned periodically to the center his "clothed weight" was taken each time and compared with the clothed weight at the preceding visit. As most of the standard tables[11] of height and weight of children of 2 to 6 years are based on "stripped weights," it seems desirable to take the child's weight without clothing when he is having a physical examination, but there seems little reason for requiring the complete undressing of a child every time he is weighed in the home or in the center for the benefit of the instruction to the mother.

The importance given to weight taking and the accuracy with which it was done varied in the different centers. In some a volunteer worker without much supervision took the weight; in others the nutrition worker always did so, discussing with the mother the changes in the child's weight while her interest was centered on the subject.

Graphic weight charts were used in 12 of the centers. In the four centers that used a formal class method large wall charts were used; in the rest a small chart was kept for the benefit of the nutrition worker and the mother. If the record of weight is to be used as a means of showing the results of success or failure in carrying out a satisfactory health program it is valuable to show changes in weight as clearly as possible. Charting of weights is of great benefit in accomplishing this.

Recording habit histories.

In most centers a more or less complete record of the daily activities, habits, and food was taken when the child was first brought to the center, but in only a few centers was a similar record taken on return visits. This record was often taken by a clerk, volunteer, or assisting nurse before the child was seen by the physician, in order to give him a more complete picture of the factors affecting the child's condition. While this method may be of value in saving the physician's time or in assisting him there is a definite loss in not having this history taken by the person—whether physician or nutrition worker—who is to give the main instruction in health habits to the mother. The taking of a record to be used by

[11] Statures and Weights of Children under Six Years of Age, by Robert Morse Woodbury, Ph. D. U. S. Children's Bureau Publication No. 87. Washington, 1921.

someone else is usually rather a formal proceeding, and the result in many cases is not an accurate picture of the real activities and habits of a child. If, on the contrary, this record is taken by the person giving the instruction, it becomes a means of giving a most valuable and individualized instruction in health habits. The most effective nutrition workers in all the centers used the latter method.

Giving instructions to meet changes in child's condition.

The discussion of the activities, habits, and food of the child in relation to the physical findings of the physician and to the changes in the child's weight or condition constitutes the main instruction given in nutrition clinics, classes, and home visits. This discussion should be based upon accurate knowledge of the child's daily activities, the amount of rest taken, his living conditions, the nervous stimulation he is under, and the adequacy of food taken during a typical 24 hours, in order that the causes which may have produced the defect or underweight in the child may be understood. In addition to this information it is necessary to know in what respects his daily program has been altered during the period following the previous instruction, in order to interpret any changes in physical condition or in weight. To secure this information the questioning of the mother must be most skillful and sympathetic. In many cases an adequate understanding of the problems involved can be secured only after several clinic and home visits.

Food teaching.

The importance of food as a fundamental requirement of good nutrition and the inadequacy of the diet and bad food habits found in a large proportion of the homes have made instruction about foods an important part of nutrition work. This has been the main reason for employing as nutrition workers women with special food training. Although the food of the preschool child is the immediate problem of the nutrition worker it is seldom possible to secure changes in his food without discussing the family dietary.

To secure changes in this is a slow and difficult process, and the successful nutrition worker approaches the problem gradually. She begins by emphasizing the value of such foods as milk, greens, oatmeal, and eggs, and encourages the mothers to use these foods and to report the number of times they are used and the amount eaten by the child. In many cases she has to contend with prejudices against or apathy toward the use of any or all of the foods that she advises. One of the most effective methods of overcoming the discouraging "He no like," which is the final and only answer given to much of the advice about foods, is to give the child an opportunity to taste the food properly cooked. This can be done by a "party" at the clinic or by a demonstration in the home. The value of this type of work is not fully realized, for aside from the centers and nursery schools where a meal was served only six of the nutrition workers interviewed made the preparation and serving of foods to the children a definite and regular part of their work, although several gave an occasional demonstration to teach a mother how to cook a particular dish.

In a great deal of the food work observed the instruction given to the mothers never went beyond continuous pressure to add more

milk, fruit, greens, and other vegetables to the dietary and to use a hot cereal for breakfast. This general advice was always supplemented by explanations as to the value of each of these foods and advice as to their preparation and as to different dishes in which they could be used. Whenever the mother showed willingness to make changes in the family dietary, however, she was given most helpful information as to the relative cost and nutritive value of different foods and the desirability of substituting other foods for some of those that she had been using.

Budget work.

One of the chief discouragements in nutrition work is the large number of homes in which the income is insufficient to buy adequate food or, if sufficient, is so mismanaged that inadequate diet results. The first condition is a relief problem and the second an educational one. The relation of health centers to relief agencies varies according to the community. In some cities the nutrition worker may be caring for the undernourished children in families receiving relief from another agency, which is at the same time sending a dietitian or visiting housekeeper into the home to plan the budget and regulate the food purchases. In other instances the relief agency may have no visiting housekeeper and may not take advantage of the budget supervision that might be given by the nutrition worker of a health center. The most effective care of the children in families receiving relief was found to result when the relief agency formally transferred to the nutrition workers of the health center the problem of making out a satisfactory budget for the family. Under these circumstances the health of the family is related to its expenditure, and the nutrition worker can exert pressure to have adequate food bought. When there is no possibility of influencing the expenditures of a family it is only by securing the confidence of the mother and by persistent effort that the family can be taught to obtain the best results from its limited resources.

Home visiting.

Most of the nutrition workers were paying from 30 to 60 home visits a week to the children under their care. When the main instruction was given in the center these visits were for the purpose of seeing whether or not the advice given was understood and being carried out, of helping maintain or establish friendly relations with the mother, of securing a clearer idea of the living conditions and special problems of the family, and of giving advice and help in regard to these or of persuading parents to have defects corrected.

The importance given to home visiting by the different nutrition workers and the effectiveness of their visits varied greatly. In some of the visits the only definite purpose and accomplishment of the nutrition worker seemed to be to develop cordial relations, and no advantage was taken of any of the conditions that were encountered to give any real help or advice. In most cases, however, the nutrition worker made a point of making some definite contribution to her health teaching as well as giving incidental advice at each visit. The requirement of full notes on the home visits is of great assistance in stimulating a nurse or nutrition worker really to accomplish

something during her visits. If such notes may be dictated rather than written it is a great saving of time.

Arranging educational programs on nutrition work.

The amount of time spent by nutrition workers on general educational work in clubs or classes, or in demonstrations or illustrated talks for the benefit of all the mothers and children coming to a clinic, varied greatly in different organizations. In one center where there is only one nutrition worker on a staff with several nurses a large part of her time was devoted to a general educational program and the remainder of it given as food consultant with the nurses caring for preschool children. In another organization with similar conditions the nutrition worker was giving less time to the general educational program and had charge of all nutrition cases in which the food problem was a difficult one.

The value of providing in the center objective illustration of good standards of food preparation and selection, hygienic habits, and child care has not been fully realized by most child-health organizations. If such work is to be of the greatest value it must include illustrative material that will "put the ideas over" to these mothers. Pictures or models of food are useful, but actual food materials are much more so. Talking about how to prepare foods has little meaning to most people; they need actual demonstrations. When the demonstrator who is explaining this illustrative material is a real teacher she will use the experience of the women or children in her audience to contribute to her explanations. Such a program is intended not to supplant the giving of individual instruction but to supplement it and help to create a desire for further instruction.

TYPES OF NUTRITION WORKERS.

Professional workers.

In most of the centers practically all the instruction was being given by nutrition workers who had had home economics but no nursing training. Because of their knowledge of food materials and household problems these women were especially well equipped to give the practical and detailed advice that is necessary in any plan involving changes in household activities and in diet. Another advantage of having this group of workers is that they are primarily teachers and they are trying to give each idea to the mothers in the most effective way. Although instruction about foods is emphasized by these workers, they all realized the equal importance of lack of personal hygiene, overactivity, and physical defects as factors in malnutrition and considered each of these in working out the detailed corrective program for each child. This type of nutrition worker was sometimes called a dietitian, although the name "health teacher" used in one center more adequately describes the character of the work done in many centers. Although not adopted by any of the organizations visited, the name nutritionist is receiving increasing recognition as a distinctive title for women doing this type of work.

In three of the centers a large part of the instruction in the nutrition clinic was given by the physician although a food teacher or a special nurse was assisting in each case. Some of the most effective

teaching of mothers that was observed was by two of these physicians, both of whom were using a nutrition-class method. In most centers where the physician expects to see the child each time he returns to the clinic a certain amount of general instruction is always given by the physician, but the details of the advice about foods and of the correction of poor health habits are usually left to some one else.

In two organizations nutrition work was being carried on by a special group of nurses, all of whom had taken some special food training. It was impossible to draw any conclusions as to the advantages or disadvantages of this plan, as in one case the work was just starting and in the second organization the nurses had been trying to give some very detailed food instruction without sufficient supervision and individual assistance to make the plan really successful or to keep up the interest and enthusiasm of the nurses.

Volunteer workers.

Volunteers were being used for different types of work in a little more than one-third of the centers visited. Giving clerical assistance to the physician, taking social histories, and weighing and measuring children were the activities most often performed by these women. In two centers volunteers were provided to tell stories to the children so that the mothers would be free to get the benefit of the instruction given to them, and in another center the cooking demonstration given for the nutrition class was by a volunteer. There is little question of the value of using intelligent volunteer service to extend or increase the activities of a center.

MEASURING RESULTS OF NUTRITION WORK.

It is difficult to measure the results of nutrition work, for in the fullest sense they should include an improvement not only in the children under care but also in the living conditions of the family. Unless an organization has done intensive nutrition work with a certain number of children through a definite period it is difficult to measure accurately what has been achieved. Only two or three organizations have attempted any statistical analysis of results, but the following standards are used by different nutrition workers in measuring the value of their work:

1. The proportion of the children being given intensive care during a definite period of time who have attained a higher standard of nutrition.
2. The proportion of the children under supervision during a definite period who have gained weight in excess of the normal gain for their age and height.
3. The proportion of children needing correction of physical defects who have such corrections made.
4. The extent of the children's gain or improvement in individual cases.
5. The proportion of children maintaining good health habits during a definite follow-up period.
6. Improvement of living standards in the community (greater use of special foods, particularly milk; more windows open at night; more outdoor life and sunshine for children; etc.)

Unfortunately most of the forms used by the different organizations are not planned with the idea of recording the kind of information that will show definite results of the care given. This is a loss not only in the evaluation of the effectiveness of the work, but also in the failure to give the individual nutrition worker definite standards toward which to direct her efforts and a definite reason for making adequate records of the information that she secures in the nutrition clinic and in home visits.

NUTRITION WORK IN RURAL DISTRICTS.

The nutrition work studied in the rural districts consisted primarily of health education for the children in the schools, though as the result of this work interest in nutrition problems was shown by many parents and a certain amount of individual work for preschool children was being done by the nutrition workers. The school work was of two general types: (1) General health instruction with emphasis on health habits and food selection given to all the children in the schools, but no special work undertaken for the undernourished children; (2) similar health instruction for all the children and, in addition, special instruction to undernourished children and some provision for a mid-morning lunch.

COUNTIES HAVING GENERAL HEALTH INSTRUCTION.

In one of the counties where no special work for the undernourished children was undertaken in the schools the general health instruction was given through periodical visits by a public-health nurse, supplemented by some instruction from the teacher. The cooperation of the children was secured by the formation of health clubs. The degree to which the children were informed on health problems and the record of their efforts to acquire good health habits were evidence of the interest aroused by this method in the two schools that were visited. The nurse tried to visit each school once a month. In addition to the club work with the children she undertook to make a preliminary physical examination of the children in most of the schools and advised them of the desirability of having dental or medical care. At the same time she discussed the possible needs of their small brothers and sisters and urged them to ask their mothers to bring these children to the health center located in the chief town of the county.

The response from the 65 schools of the county was not large, as only about 20 preschool children had been brought into the center during the last year. Most of the actual work for preschool children was done in the children's weekly conference, since the many duties of the nurse made it impossible for her to make many home visits. The conference activities consisted of a preliminary physical examination by the nurse, including vision, hearing, teeth, throat, posture, muscle tone, general appearance, height, and weight; an examination by a physician from the local hospital for all cases that showed need of more complete examination; and individual instruction given to each mother in which emphasis was placed on health habits and adequate food.

In the second county, where the health teaching was given as a regular class problem without relation to the needs of the under-

nourished children, the instruction was being given by grade teachers under fairly regular supervision by a nutrition worker. The quality of the instruction varied with the interest and ability of each teacher; this was especially noticeable in these rural schools, in which the supervision was more irregular. Although some of the teaching was very good it was not coordinated with the actual physical condition of the children; its purpose was to give general information which would create interest in the formation of good habits. As the principal activity of the nutrition worker was to supervise and instruct the teachers her only contact with the parents was through general talks given at parent-teacher association meetings. Although a mild interest in the preschool problem had been expressed at these meetings no actual plan had been made for the care of these children.

COUNTY DOING SPECIAL WORK FOR THE UNDERNOURISHED.

The third county was the only one where the weight of all the children was taken at regular intervals and special emphasis given to correcting underweight. Some actual teaching was done by the nutrition worker in each school, but as she gave only part time to this county all the instruction between her visits was given by the teachers. Either because of the personality of the nutrition worker and the quality of her teaching or because the plan for emphasizing the needs of the undernourished children created greater interest in the homes there were more requests from the mothers in these schools than in any of the others for information as to the food needs of their preschool children. Most of the instruction to the mothers was given in the homes, though group meetings were occasionally arranged in the school buildings.

FACTORS WHICH HAMPERED HEALTH WORK IN RURAL DISTRICTS.

In two of these counties health teaching was being undertaken without any attempt to take the children's weight regularly or to use their gain or loss in weight as a means of insisting upon the acquisition of improved health habits. The question of the value of this plan in school procedure should be more fully and completely studied. From the standpoint of securing the cooperation and interest of the mother not only for her child in the school but also for the possible needs of her preschool children, the value of emphasizing health teaching by showing its relation to the actual condition of the children seems obvious. Wherever a nurse, nutrition worker, or teacher gives every child a preliminary examination—whether this consists merely of weight taking or includes some examination of posture, vision, hearing, and throat—and at the same time explains individually or in a class the relation of health habits to the child's condition there is always greater interest on the part of the child, which is apt to be reflected in the home.

Lack of medical supervision was the great difficulty in all the rural districts visited. While some very effective general-health teaching was being done, corrective work was always hampered by lack of accurate knowledge of the child's real condition.

CONCLUSIONS.

1. A health center that undertakes the care of preschool children has three primary responsibilities: Educational, to educate the parents in the community to which it contributes as to the health needs of their preschool children and as to the standards of physical and mental development of the normal child; supervisory, to provide general health supervision for as large a number of preschool children as possible; corrective, to provide instruction in clinics and in home visits that will help to overcome poor health and living habits, and to give parents advice and assistance in securing the correction of defects that need medical care.

2. The wide variation in the frequency and regularity of the attendance of mothers of preschool children in different centers indicates that there is need in many centers for a closer study of all of the factors that influence nonattendance in their communities. In some centers nonattendance is accepted as an unfortunate situation without much effort to overcome it by changes in policies or publicity or in plans for instruction.

3. Nutrition work is the type of corrective work most generally provided for preschool children, although the correction of postural defects and of wrong mental attitudes and bad habits is receiving an increasing amount of emphasis in some health centers.

4. The excellent results secured by centers that have undertaken to give intensive care during a definite period to children needing corrective work indicate the desirability of greater use of this method. While one of its values is the stimulation of the interest and effort of the mother through frequent contacts, it also provides a spur to the staff worker who must measure the results of her work within a definite period.

5. There is much variation in different localities as to the division of responsibility between the nurses and nutrition workers of a center in the care of preschool children. There are, however, three main plans:

(*a*) All general supervision of the children is the responsibility of the nurses. All nutrition cases are under the care of a nutrition worker for a definite length of time or until each child attains a higher standard of nutrition.

(*b*) The nutrition worker is responsible for the general supervision of all preschool children as well as for the corrective work in nutrition cases.

(*c*) General supervision of all preschool children is given by the nurses, and the corrective work in nutrition cases is done by the physicians and the nurses. The nutrition worker serves as a consultant and provides a general educational program at all clinic meetings.

The use of a specialized worker for nutrition cases seems the most desirable of these plans. When there is only one nutrition worker on the staff of an organization the influence of her work will be more far-reaching if she cares for only a few special nutrition cases and devotes most of her time to a general educational program.

6. The nutrition worker is primarily a teacher, and her success will be in proportion to her ability to interest the women with whom she works and to stimulate the formation of good food and health habits. Special food training is an essential requirement for such a worker, as she must be able to analyze and give advice as to the family dietary.

7. There is much difference of opinion among nutrition workers as to the relative value of the home or a clinic as the place in which nutrition work should be done. In a few centers practically all of the instruction was given in the home, while in others great effort was being made to bring the mothers to the center for both individual and group instruction. There is need of a demonstration as to the comparative cost and effectiveness of using the home or the center as the place for each type of activity undertaken by a nutrition worker.

8. A formal class method of conducting nutrition work was seldom used for preschool children. Advice was usually given to the mothers individually, though group instruction was used in a few centers. Group instruction of some kind should be made a definite part of a nutrition program. Demonstrations of food preparation and selection given in the center for groups of mothers and preschool children are of the greatest value in stimulating the interest of the mothers and in initiating a liking for new foods.

9. The standards for deciding which children are in need of nutrition care varied greatly in different health centers, as they depended largely upon the interpretation of the individual physicians. In the majority of centers, however, less emphasis was given to weight as an index of poor nutrition than is generally the case in nutrition work for older children.

10. Carefully taken habit and food histories and a record of the variations in the child's weight are the facts on which a nutrition worker bases her advice and the encouragement that she gives to a mother. It is important that all these facts about a child should be secured and recorded at sufficiently close intervals to give an accurate picture of his condition and to show his progress. Nutrition records should be planned with both of these points in mind, and they should be so arranged that important facts will always be recorded.

11. Nutrition work was one of the recent additions to the activities of most health centers. If this type of work is to be of the greatest benefit it is most important that some concrete measure of the results accomplished should be made a definite objective of the nutrition worker. This should be made a part of the record form used.

12. In the rural districts visited nutrition teaching was centered in the schools. This school work was used as a means of creating an interest in the needs of the preschool children as well as the school children. There are definite limitations to the effectiveness of this plan. Even for school children, the nutrition teaching in a school must be related to the actual condition of the individual child if the interest and cooperation of the parents are to be enlisted, and unless such cooperation is secured it is impossible to get in touch with the preschool children. Although the school nutrition worker

can give the mothers excellent advice in regard to the food, habits, and activities of their preschool children, lack of medical supervision is a serious handicap to constructive nutrition work for these children. Health teaching in the schools is an important factor in a health program for rural communities. It should serve not only to encourage the formation of good health habits among the school children but also to create and maintain interest in a broader county or State plan which would provide medical supervision for both school and preschool children in rural districts.

APPENDIX.—ORGANIZATIONS VISITED.

IN CITIES.

Boston, Mass.:
- Boston Dispensary.
- Brookline Food Center.[1]
- Community Health Association.
- Neighborhood Kitchen.[1]
- Ruggles Street Nursery School.

Chicago, Ill.:
- Elizabeth McCormick Fund.
- Infant-Welfare Society.

Cleveland, Ohio:
- Babies' Dispensary Hospital.
- Cleveland Nutrition Clinics.[1]
- Cuyahoga County Public-Health Committee.[1]
- Lakeside Dispensary.

Detroit, Mich.:
- Child-Hygiene Division, Department of Health.
- Merrill-Palmer Nursery School.

Kansas City, Mo.:
- Children's Bureau.

New York, N. Y.:
- American Red Cross, Bronx Chapter Health Center.
- Babies' Welfare Federation.[1]
- Bellevue Hospital, Out-Patient Department.

New York, N. Y.—Continued.
- Bureau of Educational Experiment—Nursery School.
- Department of Child Hygiene, Board of Health.
- Greenwich House Health Center.
- Judson Memorial Health Centre.
- Mulberry Health Center, Association for Improving the Condition of the Poor.
- New York Diet Kitchen Association.
- East Harlem Nursing and Health Demonstration.

Philadelphia, Pa.:
- Babies' Hospital.
- Children's Hospital, Department for the Prevention of Disease.
- Division of Child Hygiene, Board of Health.
- Star Centre.

St. Louis, Mo.:
- Municipal Health Clinics, Health Department.

Utica, N. Y.:
- Baby-Welfare Committee.

IN RURAL DISTRICTS.

Macon County, Ala.:
- Tuskegee Institute Health Center.
- Health work in rural schools.

Mississippi County, Ark.:
- Nutrition work in the schools.

Wayne County, Mich.:
- Health work in rural schools.

[1] Not included in tabular statement on page 2.